

G A Z E T T E E R

OF

SOUTHERN INDIA.

THE TENASSERIM PROVINCES AND SINGAPORE.

Compiled from Original and Authentic Sources.

ACCOMPANIED BY AN

A T L A S,

INCLUDING

PLANS OF ALL THE PRINCIPAL TOWNS & CANTONMENTS.

BY

PHAROAH AND CO.

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TO THE
M e m b e r s
OF THE
CIVIL AND MILITARY SERVICES
OF THE HONORABLE EAST INDIA COMPANY
ON THE MADRAS ESTABLISHMENT;
THIS ATTEMPT TO DESCRIBE THE TERRITORIES AND
PLACES SUBORDINATE TO THAT PRESIDENCY AND
IN MILITARY OCCUPATION BY ITS ARMY,
IS RESPECTFULLY INSCRIBED,
BY THEIR OBEDIENT SERVANTS,
PHAROAH AND CO.

PREFACE.

THE preparation of this work was undertaken in consequence of the inconvenience felt from the absence of any compilation comprehending full and accurate descriptions of the provinces subject to the Government of Madras.

Numerous descriptive papers are to be found scattered in various publications, some of which (the Medical Topographical Reports for example) have been prepared at the instance of the Government; but, from the complete absorption of the time of the public functionaries, in their strictly official duties, and the difficulty experienced by private individuals in collecting authentic materials, no attempt has hitherto been made to analyse, dissect, and revise existing details, to accumulate additional information, and combine the whole in one intelligible volume, valuable at once for purposes of reference and study.

Such a volume has always appeared to the undersigned a great desideratum. They have observed, during a long experience of the requirements of Madras society, that gentlemen in the civil and military services appointed to districts, have felt themselves much at a loss for some starting point of information regarding the locality of their future residence and service. The stranger, the traveller, the clergyman, the missionary, the uncovenanted functionary, the merchant, the trader, the student, have continually expressed their regret at the absence of some trustworthy and comprehensive guide.

To supply this want, in a manner worthy at once of their own reputation, and of the support of the Madras community, which they have so long enjoyed in other forms, has been the aim of the Compilers; and they entertain the hope that the labour that has been bestowed for many years, and the great expense now incurred, will not be found to have been expended in vain.

As the foundation of a work professing to treat of the geography and topography of a large extent of country, maps have necessarily been prepared of every province, district, and cantonment, under the Madras Presidency. The best and latest authorities have been consulted for this part of the work, and it is confidently believed that the general accuracy of the details will be found upon a par with the care bestowed in the tracing or drawing of the maps. To effect this latter object in the most complete manner, the Compilers have availed themselves of the services of Mr. Walker, the able Superintendent of the Map Department of the East India House, and have spent upwards of £1,000 in the preparation and engraving of the maps and plans.

In the descriptions of the various provinces, districts, and towns of Southern India, it has not been practicable to observe uniformity of arrangement, because the information available to the Compilers has not been in every case of the same extensive character. Still whenever practicable, a settled plan has been followed, placing the attributes of each division of the country in their natural sequence. It will thus be found that the several sections comprise descriptions of Locality, Aspect, Soil, Climate, Productions, Water, Supplies, Roads, Inhabitants, Animals, Minerals, Commerce, Manufactures, Languages, Historical Facts, and in many places Geological and Scientific, Finance, and Revenue, details, from authentic sources. There are likewise given the Latitudes and Longitudes (with short notices) of numerous towns and villages, which have hitherto escaped the attention of Compilers of Gazetteers.

Carrying out the principle of leaving nothing unsaid upon which it may be important to any single section to be informed, minute details are furnished respecting the cantonments, barracks, and hospitals at the several military stations. It must always be of consequence to officers, appointed to particular stations, to know something of the place where they are to pass a portion of their service.

In the preparation of this work the Compilers have enjoyed the advantage of access to the Records of the Honourable East India Company; and although the scantiness of statistical information at the East India House has not enabled them to gather many new facts of interest, they are not insensible to the liberality and courtesy through which they have been enabled by comparison with official data, to verify their own accumulations. They would be ungrateful did they not add their great obligations to the Right Hon. Lord Elphinstone, who most liberally placed important Government documents at their disposal, during his administration of the Government of Madras, and to several gentlemen in the civil and military services; to Mr. W. H. Bayley, to whom they are deeply indebted for a general superintendence of the compilation of the work, and for correcting several discrepancies; to Mr. Walter Elliot, Sir H. Montgomery, Mr. J. D. Bourdillon, Colonel Arthur Cotton, Major Frederick Cotton, Colonel Balfour, Mr. G. E. Thomson, the Reverend Misssinaries, and others, who have aided them with their advice and contributions.

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HISTORY OF THE NORTHERN CIRCARS.

It was not till A. D. 1471, that the Mahomedans of the Deccan extended their arms to the Northern Circars. At this time Oria, the Rajah of what is now the Ganjam country, died without issue, and his adopted son Mungul Roy, and his cousin Hunner (?) became competitors for the succession. The latter had recourse to Mahomed Shah, the last king but one of the Bhaminee Dynasty of the Deccan, who not only installed him, but acquired for him A. D. 1480, on condition of his becoming tributary, the countries of Condapilly, Ellore and Rajahmundry. About A. D. 1490, Mahomed's successor, Mahmoud, acquired Masulipatam and Guntoor, which districts formed part of a great Principality lately established by the Hindû Rayers, descendants of the Telinga Rajahs conquered at Warunkûl (A. D. 1323). Taking advantage of the disturbed state of the Carnatic, they had made themselves masters of the sea coast from Madras to the Kistnah, and held their chief residence at Chandragherry.

It was during this Mahmoud's time (in 1512), that the Bhaminee Dynasty was dismembered, and the five Deccanee kingdoms set up. The country now known as "The Northern Circars," fell under the dominion of the Kootub Shahee state, whose capital was Golconda or Hyderabad. That portion south of the Godavery became tributary without difficulty, but Wistna Deo or Gajeputty, a powerful prince of Orissa, who ruled in Rajahmundry and Chicacole, withheld submission, and it was not till A. D. 1571, that his pretensions were lowered. At this period Vacharoy Mussalee, ancestor of the Peddapoor family, was induced to take a treasonable part against the Rheddy or Gajeputty, under whom he was chief Renter, and assisted the designs of the Deccanee king; still the subjection of Rajahmundry and Chicacole was not very complete, though the collections were made by the Deccanee Government. In 1687 Golconda was taken, and the Kootub Shahee dominions passed over to Aurungzebe. Aurungzebe was too much occupied with establishing his authority in the Deccan, and curbing the Mahrattas, to

pay much attention to the Orissa Coast, and in the period which followed his death, the empire of the Moguls was so distracted, that no regular Government was established in the Circars.

When Nizam ool Moolk was constituted by the Mogul Emperor, Soobedar of the Deccan, in A. D. 1713, he took steps to settle the Orissa country, and appointed to the Government of Chicacole, Anwar-ooddeen Khan, so well known afterwards as Nawab of the Carnatic. Rustum Khan was appointed to Rajahmundry and the Circars to the south. He introduced a settled administration of revenue, but did not spare the Zemindars, who had defrauded the public treasury, and despoiled the country by their oppressions. A pile of heads was exhibited at Rajahmundry, and a similar monument at Masulipatam. For Zemindars, Aumeens were substituted, but Mussulman ignorance and indolence, soon made it necessary to recur to the ancient system of finance, through the agency of Farmers-General, who were Hindoos. They had certain local privileges, which became hereditary, and by degrees, a new race of Zemindars sprung up.

The Northern Circars were, when under the Nizam's Government, five in number, as noted in the margin. The boundaries of *Guntoor* were the same as they now are, viz., the Kistna on the north and west, Cuddapah and Ongole on the south. *Condapilly* comprehended the strip of country between the Kistna on the south, and the town of Ellore and the Colar lake, on the north. It now forms part of the Masulipatam district. *Ellore*, was the country between Condapilly and the south branch of the Godavery, where it falls into the sea at Narsapore. The old Circar of Ellore, is now partly in Masulipatam, and partly in Rajahmundry. *Rajahmundry* did not extend so far north as it does now, the northern boundary being the small river Sattiaiverum, which falls into the sea at Coconada. North of Rajahmundry was the large Circar of *Chicacole*, anciently called Kulling (whence Calingapatam). It comprehended part of present Rajahmundry, and all Vizagapatam and Ganjam. It had two subdivisions, viz., Chicacole proper (or Vizagapatam), and Itchapore (or Ganjam); the river Poondy at the town of Chicacole being the boundary.

Besides these five, there was a portion of country, or a coast strip from Mootapilly to Point Gordeware, called the Masulipatam Havelly, held as a personal estate of the Reigning power. It was under a separate

- 1 Guntoor or Moortezanugur or Condavir.
- 2 Condapilly or Moostafanuggur.
3. Ellore.
4. Rajahmundry.
5. Chicacole.

Governor, who had the charge of the salt-pans, and customs at Nizam-patam and other ports. Masulipatam was considered the chief town and fortress of the Northern Circars.

Moozuffer Jung on his accession to the Soobedarship, by the assistance of Duplex in 1750, presented the town of Masulipatam and the country round, to the French ; and in 1752, Salabut Jung, the successor of Moozuffer Jung, made over to them the whole of the Northern Circars. For they, through M. Bussy, had rendered him essential service. Bussy was appointed to rule these provinces. He dismissed the Zemindars from their employments, but permitted them to enjoy, under French sunnuds, their rissooms and savorums (hereditary perquisites and privileges), to the amount of about one-tenth of the revenue of the country. He had most difficulty with the large Circar of Chicacole, where independent chiefs, family feuds, and internal usurpations, had thrown every thing in disorder. Bussy's object was, to unite all under one head, and he fixed on Vizieram Rauze of Vizianagrum. With French assistance, the Bobily* and other chiefs were subdued. Bussy was obliged to reside generally at the Nizam's Court at Hyderabad, and thus his plan of revenue administration, was never fully carried out.

Vizieram Rauze was succeeded by Anunderauze Gajepetty, who soon found Bussy too energetic a master. Lally, the Governor of Pondicherry, having recalled Bussy to assist in the siege of Madras, Anunderauze made offers to the Madras Government, to assist in taking possession of the Circars. The Madras Government, with the French army at their gates, declined ; on which the Rajah applied (in 1758) to Bengal, and Lord Clive detached Col. Forde to co-operate with him. Forde defeated Couflans, Bussy's successor, at Poddapore. The French General then retreated to Masulipatam, and obtained promise of aid from Salabut Jung, who marched towards the scene of action. Though Anunderauze and his party fled, Forde continued his course, and eventually took Masulipatam by storm, before Salabut Jung reached it. This occurred in April 1759, two months after the French had raised the siege of Madras. A treaty was concluded with Salabut Jung, by which the whole territory dependent on Masulipatam, (about 80 miles of coast, and 20 inland) was ceded to the British, and the French were to be made to leave the country. The rest of the Circars was left nominally under the Nizam's authority, though in fact, the

* The assault on Bobily (instigated by Vizieram Rauze) and the immolation of the women and children by order of the Rajah Runga Row, Dec. 1757, are well described by Orme, Vol. II. p. 258.

driving out of the French from the Northern Circars, was virtually a conquest of the whole. The Nizam, occupied with the intrigues of his brothers, Basalut Jung, and Nizam Ali, and with the incursions of the Mahrattas, was quite unable to maintain his authority in the Circars. In 1761, Nizam Ali effected the supersession of his brother Salabut Jung, and after keeping him in prison two years, was accessory to his murder. Ali's title was however confirmed by the Emperor, at Delhi.

In 1762, four of the Circars were offered by Nizam Ali, to the Company—the fifth, or Guntoor, being held as a Jaghire, by his brother Basalut Jung. But, as the terms required were those that the French had formerly accepted, viz., the condition of affording Military aid to the Nizam, the offer of the Circars was declined. They were then placed in the charge of one Hoossain Ali, and to prevent the intrusion of the French, the English Government in 1765, agreed, at the Nizam's request, to aid him with their authority. The whole country was in disorder each Zemindar being a petty Prince, hardly acknowledging any authority on the part of the Nizam. Hoossain Ali, supported by the English, obtained possession of Condapilly, Ellore and Rajahmundry, having engaged to put the Company in possession of them whenever required, on a reasonable maintenance being secured to him.

In October 1765, the Council at Madras advised the Directors, that Lord Clive had, at the instance of Mr. Palk, the President at Fort Saint George, obtained sunnuds from the Mogul for all five Northern Circars, and a confirmation of the Jaghire, granted by the Nabob to the Company, near Madras. It was judged prudent to defer taking immediate possession of the Circars, as the Council were not aware how far they might be required, to send aid in troops to Bengal. The revenues for the next year, had been anticipated by Hoossain Ali, to enable him to make good his payments to the Nizam, and support his troops, but the possession of the sunnuds was important, the French being thereby prevented from getting a footing in that part of the country. The sunnuds were however published at Masulipatam, and received there with general satisfaction. A Military force was sent, under General Caillaud, to support the authority of the grantees, and the fort of Condapilly, which in a great measure secured the pass into the Circars, and resisted his entrance, was carried by assault. The Council now determined to take the countries into their own hands, to receive from the Zemindars, the outstanding balances, and to use every means for discharging Hoossain Ali's troops.

In order that Nizam Ali might throw no obstacles in the way, a Treaty of Alliance, was signed at Hyderabad, on the 12th November 1766. By this Treaty, the Company, in consideration of the *grant of the Circars*, engaged, to have a body of troops at His Highness's disposal, to settle any internal rebellions, or, in the event of troops not being required, to pay nine lacks of Rupees per annum. Guntoor was to remain in possession of Basalut Jung, till his death. The diamond mines were specially reserved to the Nizam. On the 1st March 1768, another Treaty was made, (after the Nizam's failure as an ally of Hyder to subvert the English) by which His Highness acknowledged the validity of the Emperor's firman. He was to be paid 5 lacs of Rupees a year; out of which, 25 lacks were to be deducted, as the expenses of the war. This payment was made to appear not as peshcush, but as a mark of amity. Guntoor was left in the hands of Basalut Jung as before. In 1769, the term for which the Circars had been let to Hoossain Ali having expired, they were taken under the Company's management. Basalut Jung subsequently gave great uneasiness to the British, by receiving into his service a body of French troops. Application was made to his brother Nizam Ali, who promised to get them removed, but it was not done. In 1778, a Treaty was entered into with Basalut Jung, by which the Company were to rent Guntoor from him during his life, for the sum he had previously realized for it. He, on his part, was to dismiss his French troops, and the Company were to assist him with a subsidiary force, kept up at his expense. Basalut Jung had other territories south of the Kistna, Adoni being his capital.

In 1779, the Government became again at variance with the Nizam, who was once more in confederacy with Hyder. The plea on his part, was, the Company's refusing to pay peshcush for the N. Circars, on the ground of their being held under the sunnud of the great Mogul. The approaching hostilities with Hyder, obliged the Madras Government, to withdraw from the position of independence they had assumed, and in which they were not supported by the Bengal Government, who went even farther in 1780, and, on the representations of Basalut Jung and Nizam Ali, directed that the Treaty with Basalut Jung should be cancelled, and Guntoor restored to him. Basalut Jung died in 1782, but not for six years (in 1788) was possession of Guntoor obtained, and then, only on a peshcush of 7 lacs per annum. Nizam Ali died in 1803. In 1823 the peshcush was redeemed, by a payment of 1,200 lacs to the Nizam, and it then became a British possession.

GANJAM.

THE district of Ganjam, the most northern* of the Madras Presidency, comprises the two divisions of Chieucole (the southern), and Itchapore (the northern), with Preaghee. It contains seven Government Talooks, viz., Wadadah, Itchapore, Paulatalagum, Poobacandah, Goomsoor, Sooradah, Moherry. The revenue of the Government lands therein, is about 4½ lacs. There are nineteen ancient Zemindaries, paying an annual peshcush of about 3 lacs; and thirty-seven Proprietary estates. The following Table will show the details for fussy 1260; or from *July 1850 to July 1851.*

GANJAM, Fussy 1260,—Area = 6,400 Square Miles.

Talooks.	Cnshah or princpal station.	Number of Villages	Population.		Extent of Land cultivated.			Land Revenue.		Number of Putthas.	Extra sources of Revenue.
			3	4	5	6	7	8			
1	2	3	4	5	6	7	8	9	10		
1 Itchapore.	Itchapore.	69	44,036	13,066	15,381	28,447	23,821	2,159	Demand for Fusly 1260		
2 Poobacandah.	Peershotpoor	169	79,897	29,883	12,103	41,992	99,522	4,635	Salt	2,86,660	
3 Wadadah....	Bryce	173	1,07,681	29,740	12,132	41,872	125,553	4,484	Petty Licenses.	4,263	
4 Paulatalagum		16	4,589				4,589	186	Motardha	9,790	
5 Sooradah....	Sooradah	58	9,911				10,553	52	Sea Customs.	12,272	
6 Goomsoor....	N W Jagum	642	91,141	not known.			1,12,244	1,639	Stamp.	14,605	
7 Codoor.....		6	2,617				672	51	Total.	3,89,870	
8 Gantalavulash.		2	1,065				742	42	Perpetuans.		
9 Moherry.....	Banampore.	136	60,192				70,884	162	Hind's	9,21,522	
									Mahomedans	4,544	
									Christians	554	
Permanently settled Estates.			5,25,800				4,51,622				
Total.			9,26,930				9,26,930				

* The Presidency of Madras ends at the N. boundary of Ganjam, 711 miles from the town of Madras.

The district contains several petty chieftainships, which yield no revenue, and it embraces a large portion of the mountainous tracts known as Khondistan, and the valley of Chocapaud, from none of which is any revenue derived.

The Ooria language prevails in the northern part of the district, as far south as Itchapore. In the southern division, the Teloogoo prevails. The Khonds have a language peculiar to themselves, which has lately been reduced to writing, by Captain J. P. Frye of the Madras N. I.

The ancient Zemindars are a proud, ignorant, and sensual race of men. They, for the most part, trace their pedigree to a fabulous origin, and are really descended from the family of the Rajahs of Jugganauth, or their followers. They maintain large numbers of armed retainers.

In the ancient Zemindaries, and in Goomsoor, Sooradah, Moherry and the Proprietary estates of Aska, Coomany, and Coorlah, and all the Hill Tracts, the regular administration of the revenue and judicial laws, is suspended by Act XXIV. of 1839, the Collector being vested with peculiar powers, for the administration of justice, and the collection of revenue, as Agent to the Governor of Fort St. George, in the Tracts above specified.

Out of the 9,26,930 inhabitants, (vide preceding page) about $4\frac{1}{2}$ lacs are Oorias. A great many of the Ooria Bramins obtain their livelihood as cultivators. Bramins of this sect also trade, and follow the occupations of brickmakers, bricklayers, &c.

The country of the Khonds which has acquired a melancholy celebrity from being the scene of human sacrifices (Merials) and infanticide, lies between the Mahanuddy on the north, and the Godavery on the south. The inhuman practices of these barbarous people have at length been put an end to, after several years exertions on the part of Col. Campbell and Captain McVicar.

The general appearance of the Ganjam district is
 Aspect. an extensive fertile plain extending from the sea to the Western Ghauts separating it from Behar. Towards the north this chain of Ghauts curves to the east and approaches the sea.

The rivers and lakes of Ganjam are, Ganjam or Resheegoolea river, Chicucole river, Vunshadarah, Mahan-dragherry, Taneyh, Bahoda, Sonapoor, Peddair.

Lakes. The Chilka lake separates Ganjam from the province of Cuttack in Bengal. In length, it may be estimated at 35 miles, by 8 the average breadth, and seems to have been produced by the operation of the sea on a sandy shore, the elevation of which, was but little above the level of the country within the beach. On the N.^o W. it is bounded by a ridge of mountains, a continuation of that which extends from the Mahanuddy to the Godavery river, and encloses the Northern Circars to the westward. The Chilka lake therefore, forms a pass on each side into the province of Cuttack, and presents an agreeable diversity of objects, mountains, islands, and forests. At a distance from the land, it has the appearance of a deep bay, the slip of land which separates it from the sea not being visible.

This slip, for several miles along the southern and eastern shore, is about a mile broad, and an entire neck of sand. Near Muniakpatam, the branch of the Chilka is about three-fourths of a mile broad, and difficult to cross when the wind blows strong. The lake is generally shallow, but diversified by several beautifully wooded islands, which abound with game; and, before Ganjam became so unhealthy, as to occasion it being wholly deserted, was the frequent resort of European visitors from other stations, during the hot months, some excellent houses having been erected on its margin.

Roads. The great northern road, from Madras to Calcutta, runs through the entire length of the district, parallel to the coast, and is in general within a short distance of it.

This road is being thoroughly repaired, especially between the Cuttack frontier and Itchapore. A road, from Munsooreottah to Russelcondah, will shortly be commenced, and it is proposed to extend it to the Bengal frontier of the Khond country.

Chief stations. The civil and military stations are, Chicacole, Berrampore, Russelcondah, Aska, Kimmedy, and Itchapore. Ganjam, from which it derives its name, having been completely deserted since the year 1815, when a malignant epidemic fever broke out, which carried off a large proportion of its inhabitants, both European and Natives, and in consequence of which, the courts and other civil establishments, were removed thence to Chicacole.

The Collector lives now at Chatterpore, five miles from Ganjam. and about 3 miles inland.

Commerce and
Manufactures.

The muslins of Chicacole, and the silk of Berhampore are of old celebrity. Piece goods, once the staple of the Northern Circars, are now rather objects of curiosity, than considerable in quantity. Time was, when the principal part of the Madras investment of piece goods, was provided in this Circar. The next important articles of export are chiefly rice, paddy, wheat, with numerous other edible grains, used only by the Natives; to these may be added horse gram, Bengal gram, with a very large proportion of oil seeds; cotton cloths, gums, wax and ghee. Ganjam sugar is much in request, and is exported in large quantities—the great Factory is at Aska, and is the property of Messrs. Binny and Co. of Madras.

Indigo used to be raised to a large extent; the chief agricultural produce is wheat, sugar-cane, paddy, oil seeds, gram, and a variety of edible grains.

About $3\frac{1}{2}$ lacs of Indian maunds of Salt, (the maund = 82½lb. Avoir.) are sold annually by Government in Ganjam. The chief place of manufacture is at Nowpadah, where the sales are $2\frac{1}{2}$ lacs of maunds. The other Pans are at Ganjam and Woomarapully, with a few at Munsoorcottah.

The rice cultivation throughout Ganjam, is very considerable, interrupted, however, by extensive tracts of bamboo and thorn jungle.

One great forest in particular, composed principally of bamboo clumps, covers the plain for a space of eight or ten miles. Cotton is not generally raised here, but is grown in detached spots.

The same ground that produces cotton one year, will not answer that crop the succeeding year—but with encouragement the cultivation might be extended and improved.

The principal towns for the coasting trade are Ganjam, Munsoorcottah, Soonapoor, Calingapatam, Berhampore, Barwar, Poondy, and Bawinapadoo.

Religious edi-
fices.

The architecture of the Hindoo religious edifices, in this quarter of India, is peculiar. Each temple is composed of a group of rather low buildings, in some cases detached, in others joined, each with a graduated pyramidal roof, terminating in an ornamented conical cupola.

Ganjam.

The town of Ganjam is 697 miles from Madras, in Lat. $19^{\circ} 21' N.$, Long. $85^{\circ} 10' E.$ It was the former capital of the district, and is situated near the sea coast. It stands on an elevated portion of the plain, with a range of high mountains at the distance a few miles in the back ground, but the country to the north, is low and often flooded. The public buildings of this station, as well as the houses and gardens of the civilians, were, when it was occupied, on a scale of grandeur, surpassing almost every other station under the Madras Presidency. The cause of the desertion of Ganjam has been mentioned in page 8.

The principal arm of the Ganjam river, which enters the sea to the south of the town, is about one-third of a mile broad, and is fordable at most seasons of the year.

Another narrow, but deeper, branch, is crossed by a wooden bridge, built somewhat on the principle of the Sangan of the Hinnalaya mountains.

Chicacole.

The principal civil station in the Ganjam district. Lat. $18^{\circ} 18' N.$ Long. $83^{\circ} 58' E.$, about 567 miles from Madras. It lies four miles in direct west of the sea, and is situated on the north bank of the river Naugooloo. It is the station of the Judge, and the Sub Collector.

The aspect of the country to the north is level and open; near the river it is sandy, and well studded with tamarind and mango tops; beyond that, are large tracts of rice cultivation, watered by channels from the river. On the south, the soil is of a dry rocky nature, marking the existence of iron ore, the rocks, of which there are many, are of a tertiary formation. In the bed, and on the banks of the river, are rocks of granite. One of considerable size, about one and half mile S. W. of the town, is called the Black rock, between which and the town, stood formerly the palaces and gardens of the Nawaubs of Chicacole. The native town, which was formerly the capital of the Chicacole Circar, lies south of the old fort; it is built in a straggling manner, and like native towns in general, the streets are narrow, and confined—from the flatness of the ground, and surrounding country, they are frequently almost impassable after heavy rain, in consequence of which, the houses are all raised about two feet, to secure dry flooring; the houses are

usually built of mud, and thatched ; many also are tiled, and some few have terraced roofs. The European residents have, of late years, selected land on either side of the native town, on which they have erected commodious dwelling houses.

The river Naugooloo has its source in the Gondwana mountains, near Polcondah ; the stream is very rapid during the rains, and large quantities of bamboos are then floated down it. At the mouth of the Naugooloo was formerly a port called Mafooz-Bunder, which now, as the entrance is completely choked up, is but a petty village.

Wells are numerous, but the water in all is brackish, except in one from which the European inhabitants derive their supply ; the sepoy, and inhabitants of the town, use the river water, which is considered good for culinary purposes.

There are very few tanks in the immediate vicinity of the town, but several, of considerable magnitude, are to be found within five or six miles, many of which are covered with rank vegetation, and in the hot seasons, when they are almost dried up, are productive sources of malaria.

The climate upon the whole is very healthy—during the months of March, April, and May, the thermometer stands high, and in the latter month generally ranges from 96° to 98°, owing to the strong S. S. west winds which prevail at this season. The heat on the whole is by no means oppressive ; occasionally in May, for a few hours when a land wind sets in, the thermometer rises as high as 102° or 104°, but this seldom occurs, and is almost always immediately succeeded by a heavy thunder storm, or else followed by a sea breeze, early in the afternoon. From June till the end of October, more or less rain falls at intervals, and the wind prevails from the west, and a point or two to the northward of it. In November the wind changes to the north east, when the cold season commences, and lasts till about the end of February. In the end of December, and beginning of January, the thermometer falls in the morning as low as 52°, but more generally ranges from 54°, to 58° or 60° ; at this time there are heavy fogs, with dew in the morning and evening.

During the wet season, the prevailing, and most fatal disease is Boro-beri ; for some years past, the amount of fevers and agues has been small.

Owing to the difficulty in procuring kunker, or other hard substance for metalling, the roads are of a very indifferent description. The

great northern road to Calcutta passes through the town, but at a little distance can hardly be traced, except by the line of trees, between which it is supposed to pass.

At Chicacole a muslin is made similar to that of Dacca, it is of various patterns and textures, some being beautifully fine. The necessaries of life, in favorable seasons, are in great abundance and cheap, the average price of the ordinary rice being, about one Rupee for forty seers (or 80 lbs.). Raggee is very cheap, and also much used, being eaten like porridge.

The vegetables commonly in use are in great abundance; and the bazaar is also well furnished with drugs, and herbs used as native medicines. Honey, bees'-wax and dammer, are brought down from the hills.

The breed of cattle is diminutive, and the pasturage, throughout a considerable part of the year, exceedingly scanty.

The population of the town is, according to the Census of 1851—12,800, of which only 1,287 are Mahomedans. The number of these has decreased, since Jaffier Ali Khan, Deputy of Nizam ool Moolk was driven out by the Rajahs of Kimeddy and Vizianagrum, about 20 years before the country came under the rule of the Company. There are about 142 native Christians, Protestants and Catholics.

Schools. The London Missionary Society has a station at Balgah, a village near Chicacole, and a school in the town, where English is taught; there are several Native schools, and provision is made for the vagrant poor.

A neat and substantial little Church has been built by subscription, in the south-east corner of the Parade ground. It was opened for divine service by the Rev. J. Street, in September 1851, and licensed by the Bishop of Madras, when he visited the station in March 1852.

The Civil Hospital and Dispensary, a most valuable institution, was formerly one of the best private residences in the place; it is nearly opposite the Military hospital, is airy, and in every way well suited to its purpose, it is capable of receiving 30 males, and an equal number of females as in-patients. It is supported by Government, who allow batta to indigent and helpless sick of all castes: the daily attendance is from 15 to 18 in-door, and 30 to 40 out-door patients.

The barracks, Hospital, magazine stores and the residence of the

Commanding Officer,* are all situated in the Fort ; where are also, the Cutcherry of the Principal Assistant Collector of Ganjam, the Post Office, and Treasury. The ditch though partly filled up may still be traced.

The buildings enumerated above, and some private houses, formerly Officers' quarters, surround an open space called the Parado ground. The Regimental lines are without the fort, about 100 yards in a south east direction ; the encamping ground is near a tank to the east of the town.

The Military Hospital, which is intended both for the sick of a Native regiment, and the garrison details, stands on elevated dry ground. It is sufficiently large and roomy to admit of a double row of cots.

The Court House is situated at a short distance from the Jail ; it is a large commodious building containing apartments for the Civil and Session Judge, the Moofly Sudder Ameen and Moonsiff, with their respective establishments.

The Jail is situated near the river, about half a mile from the cantonment ; it is a substantial building, but the walls are rather low, not being more than nine feet high ; it is divided into several courts, for the various classes of prisoners, and altogether contains ten cells well ventilated ; there is an ample supply of good water on the premises. A new jail hospital is about to be built without the walls.

Berhampore.

Lat. 19° 20' N., Long. 84° 50' E.

The chief Military station in the district of Ganjam. It is about 12 miles from Chitterpore, the Collector's station. It stands on a rocky ledge, surrounded by an extensive cultivated plain, bounded by a range of hills, on the west and north, from 5 to 10 miles distant, and open to the south and east. The hills to the west, are of considerable altitude, and covered with brushwood and bamboo jungle to their summits ; those to the north are undulating, and less elevated. About six miles to the eastward, is the sea coast, towards which the plain generally slopes ; an extensive bank of sand hills runs along the shore. The proper name of the cantonment is Baupore—Berhampore is the name of the native town near it.

* A detachment is furnished to Chicacole from Berhampore or Russelcondah.

The native town is about half a mile from the northern side of the sepoy's lines, and somewhat lower ; it is a large and densely populated place, containing 20,000 souls. The houses are small, and generally built of mud, (though some few are of brick,) and the streets are narrow and dirty. Beyond the town, on the north side, is a strip of paddy ground, and a considerable swamp, extending towards the base of the hills ; malaria however, if engendered in this locality, does not appear to reach the lines, or influence the health of the cantonment. The wind seldom blows from that direction, and when it does, the neighbouring lofty hills protect the lines from the influence of the swamp.

There is no river in the vicinity of Berhampore, but there are several nullahs, which are quite dry except during the monsoon, when they become rapid streams, conveying the rain from the western hills to the Ganjam river. The plain is studded with numerous small tanks, though little is done in the way of irrigation, the crops being allowed to depend upon the rains for the necessary supply of moisture.

The climate is more healthy and bracing, both to European and Native constitutions, than most others in Southern India.

The south-west monsoon sets in at the beginning of June, and continues till September, when it is succeeded by that from the north-east, which usually terminates by the end of October. November, December, January and February are delightful months, the sky being clear, and the atmosphere cool, with heavy dews at night. The thermometer at this time ranges from 50° to 75°. The hot season commences about the end of March, and continues throughout April and May, during which period strong southerly winds prevail, and constitute the only unhealthy portion of the year, when fevers and rheumatism prevail. The thermometer then ranges from 75° to 90° ; the weather is also very sultry and oppressive, between the showers, at the commencement of the rains.

The soil of the cantonment is dry and gravelly, large heaps of granitic rocks rising through the surface in all directions, especially towards the north-eastern point, which is the most elevated part, the average height of the range being from 40 to 50 feet above the level of the neighbouring plain.

The town has extensive well supplied bazaars, in which all sorts of grain, meat, fish, &c., are abundant ; it has a manufacture of silk and

cotton cloths; sugar and sugar-candy are also made in large quantities. The great northern road, from Madras to Calcutta, passes close by the western end of the cantonment.

The vegetable products of the country are, rice and a variety of other grains, sugar-cane, gram, and oil seeds. The principal trees are the banian, mango, cashew-nut and the neem. Of wild animals there are bears in considerable numbers, chetahs, tiger-cats, &c., hyenas, jackals, hares.

The officers' houses though built of mud, plastered over wattles, and thatched, are comfortable dwellings, and particularly cool. To the westward, in which direction the level somewhat descends, are the parade ground, places of arms, store-rooms, magazine, solitary cells, staff serjeants' quarters, and regimental lines. The magazine is a bomb-proof building, the others are built of brick and mud, with tiled roofs. The solitary cells are well situated, each is 10 feet square, and they are lighted and aired from the top, by small windows.

The Hospital is distant eastward from the Place of arms, 1,140 yards, it is an oblong building of brick and mud, with a tiled roof, containing one ward, a Dispensary with broad verandahs in front and rear. It is situated in the highest part of the cantonment, and in an open and airy situation, free from all stagnant pools, or other offensive accumulations.

The lines, though lower than the other parts of the cantonment, are elevated with regard to the adjacent country; they are not sufficiently open or spacious; the huts are built of mud and thatched: they have lately been unhealthy, owing apparently to the water being so near the surface. There are numerous wells in the lines, the water of which is said to be brackish, but a plentiful supply of good water is procurable from a large neighbouring tank.

Calingapatam:

Lat. 18° 20' N., Long. 84 10' E.

About 15 miles north of Chicacole, on the south bank of the Vomshudara river; it was formerly under the Mahomedan rule, a port of much note and trade; the remains of a large town, with its musjeeds and burial places, are still to be seen. It is now again rising into importance, as a place for shipping, being, with the exception of Coringa, the best anchorage on the coast during the S. E. monsoon. A beacon

is to be erected on the point of land which runs into the sea, and shelters the roadstead. The Garrah hill, about 3 miles inland, affords a good mark for vessels bound to this port. The exports are chiefly rice, gingely seeds, wheat, gram, hides, timber, bees'-wax, &c.

Munsoorcottah.

A town and seaport in the Collectorate of Ganjam, about 16 miles south of Ganjam; known chiefly as the port whence the Aska sugar is exported.

Itchapore.

A large native town wherein is the Sudder Ameen's Court, and a Jail.

GOOMSOOR.

A hilly tract lying between 29° 40' and 20° 25' N. Lat., and 80° 10' and 85° 5' E. Long., in the neighbourhood of Ganjam and Vizagapatam. For a long period after our occupation of the peninsula, the Zemindar held the Goomsoor country, on payment of rent. But in 1835, he claimed a certain exemption from the process of the Civil Court, and refused to pay arrears of revenue. After much negotiation, and many vain attempts at conciliation, the Government authorized the resumption of the country. Before this step was taken, the Collector again tried to adjust matters amicably with the Zemindar, and again failed. On this, being of opinion that the Zemindar would not succumb to any Civil establishment alone, a military force was prepared by the Collector, to accompany the proclamation of resumption. Hostilities may be said to have commenced in September 1835, but were suspended, in consequence of the setting in of the rains in June 1836, and resumed again as soon as the season permitted. The Hon'ble Mr. Russell was appointed Commissioner, with full discretionary powers, and to his management, was left the adjustment of the whole affair. After much desultory warfare, the force succeeded in penetrating all the passes, with but little loss from the enemy, though not without considerable suffering, from the unhealthy nature of the climate. The capture and imprisonment of the Zemindar, and more direct management of the Goomsoor tracts, under British officers, and the establishment of a corps of Hill Sebundees, closed the affair.

Russelcondah.*736 Miles from Madras.*

A cantonment forming the most western station in the northern division of the Madras Army. It was named after Mr. Russell, the Commissioner attached to the army during the campaign in Goomsoor. It lies at the foot of a hill from which it derives its second appellation of Condah, and is in north Latitude $20^{\circ} 56'$, and east Longitude $84^{\circ} 37'$. It is distant six miles N. N. W. of the fort of Goomsoor; to the nearest seaport, Ganjam, the distance is 50 miles. Its height above the level of the sea, is about one hundred and fifty feet.

The surrounding country is very hilly, the hills verging in height from 500 to 2,000 feet, and thickly covered with dense jungle. In low situations the jungle is chiefly composed of bamboo.

The soil of the plains which is alluvial, is sandy, but fertile. For some miles round the cantonment, the plains are cultivated with paddy, and are very productive. On the higher grounds, dry grains, sugar-cane, cotton, and castor oil are grown. The mango topes are very plentiful and productive throughout the surrounding country, and the fruit when in season, is largely consumed by the Natives.

The country is continually well supplied with good water, as the wells in the cantonment do not become dry throughout the year. Two small rivers pass through the station; on the left bank of one of which the sepoy's houses are built, and the other runs through the village of Nowgaum, about a mile and a half distant; both streams unite about 6 miles from Russelcondah, and running a very devious course through Aska, flow into the sea at Ganjam; in the hot season these rivers become quite dried up, but in the monsoon they occasionally overflow their banks.

The climate is not less salubrious than that of any other part of Southern India. The south-west monsoon sets in about the middle of June, and is generally over towards the middle of October. The weather is cool and pleasant nine months of the year, but hot during the other three, viz., in March, April and May, at which time the nights are very oppressive. The prevailing winds are north-east and south-west, the former blows during November, and is very cold and piercing. Thunder and lightning frequently occur at the commencement of the north-east monsoon, accompanied with very heavy showers.

The barracks or Place of arms are situated near the foot of a hill, fronting the east. The hospital is a building on an elevated platform, about a hundred yards from, and in a parallel line with, the barracks; it is well built and commodious; there are two wards placed at right angles, which are large, lofty and comfortable, with verandahs all round, and it is open and well ventilated. In addition to the above, there are two small rooms, used as a bath room, and a dispensary, with a cook-room, &c., the whole being inclosed by a wall five feet high, forming altogether a very complete structure.

Both hospital and barracks are built of burnt brick and tiled.

KIMEDY.

A hill tract occupying the western border of the Ganjam country. It contains the three ancient Zemindars of *Purluh* Kimedy, *Pedda* Kimedy, (or Vizianuggur) and *Chinna* Kimedy (or Pratabgherry).

The first, the most southern of the three, was originally a Principality under one of the Gajeputty Rajahs of the royal race of Orissa. For many years it had been the scene of much confusion, owing to the imbecility of the Zemindars, and the turbulence of their followers. In 1829 the Country was attached on account of disturbances, and taken under the Collector's management. Subject to the Rajah, and paying him tribute, are a number of Hill Chiefs or Bissoya, of a very independent character, who could with difficulty be ruled, and controlled by the ablest of the Rajahs, and quite set at naught in their wild and inaccessible country, the distant authority of the Collector, and his Native officers, employed in the administration of the Rajah's affairs. Besides these chiefs, there were also in the town of Kimedy a body of armed men, called the Town Peons, possessing certain privileges formidable enough to the Rajahs, and ready to extort new advantages from the weaker of them, on every occasion. At length the turbulence of the Chiefs, the violence of these peons, and the consequently unsettled state of things, generally, gave opportunity to all malcontents to disown legitimate authority, and to join in gross acts of wanton rebellion against the authority of the Collector's local agent, and the general peace of the country. Matters having thus come to a crisis, Government determined to put down these inquietudes, with a strong hand. In 1838 a special commission was appointed, and troops to the number of about 2,000 men were employed against the insurgents. The

due authority of Government was shortly re-established by force of arms, and the future security of the tract ensured by the judicious arrangements of the Commissioner. The Zemindar being a man of weak intellect and incapable of managing his own affairs the estate was taken under the charge of the Court of Wards by whose officers it has been administered ever since. The annual péshcush paid by the Zemindar is Rupees 82,529. The town of Kimedy is about 40 miles N. of Chicacole.

2. *Pedda* Kimedy or Vizianuggur lies immediately to the N. of Purlah Kimedy. The Rajah formerly resided at Vizianuggur, but removed some two or three generations back to Digapoody. His péshcush is 23,000 Rupees per annum.

3. *Chinna* Kimedy or Pratabgherry is the most northern of the three. The Rajah resides at Poodamaree and pays péshcush 20,000 Rupees.

ASKA.

Is a Proprietary estate yielding a revenue of Rupees 4,700. It was formerly a portion of the Goomsoor Zemindary. It was temporarily occupied by troops while the country was in a disturbed state, but none are stationed there now. The town of the same name is situated just above the confluence of two rivers both taking their rise in the Khond Hills, one flowing through Sooradah, the other through Goomsoor, which take the name of Kooskooliah, after their junction. Close to the town is the extensive sugar factory of Messrs. Binny and Co. worked by steam, and furnished with machinery of the latest improvements.

VIZAGAPATAM.

Situation and
Boundaries.

A district or collectorate on the Coromandel Coast, between Lat. $17^{\circ} 10'$ and $18^{\circ} 50'$ north, and Long. $84^{\circ} 00'$ and $82^{\circ} 30'$ east. It is bounded on the east by the Bay of Bengal, on the west by the Eastern Ghauts, at an average distance of from 30 to 40 miles from the sea; and on the south and north by the districts of Rajahmundry and Ganjam respectively.

VIZAGAPATAM, Fusry 1260*—Area = 7,650 Square Miles.

Talooks.	Cusbah or principal Station.	Number of Villages	Population.	Extent of Land cultivated.			Land Revenue.	Number of Putabs.	Extra sources of Revenue.
				Wet and Garden.	Dry.	Total.			
1	2	3	4	5	6	7	8	9	10
				Acres.	Acres.	Acres.	Rupees		
1 Goleondah.....	Nursapatam....	279		3,911	3,543	7,454	48,148	748 Akkary	Salt..... 1,39,444 58,176
2 Survasiddi.....	Survasiddi....	68		7,513	7,109	14,622	1,01,337	Moturpha.....	6,033
								2,004 Sea Customs	7,994
								Stamps.....	16,652
3 Palcondah.....	Palcondah....	262		"	"	"	1,10,908	Total.....	2,28,299
	Bimlipatam	"		"	"	"	50	POPULATION.	
Total.....		609	12,54,272	11,424	10,652	22,076	2,60,443	Hindocs..	12,38,590
Permanently settled estates.							9,76,845	2,752 Mahomedans and others not Hindocs.	15,682
									12,54,272
							12,37,285		

Or from July 1850 to July 1851.

Aspect. The country is irregularly mountainous and hilly, the coast generally bold, the hills in some places, and especially to the south, overhanging the sea.

The hills lying to the westward of Vizagapatam, and within three and four miles of the town, extend far into the district, towards the Hyderabad territory; and those to the southward, to a distance of about thirty miles, where the country becomes flat, and continues so as far as the Rajahmundry district. These hills (many of which are from 1,500 to 2,000 feet in height) are generally clothed with low jungle to their summits; extensive, fertile, and highly cultivated valleys lying between them, in which are grown rice, and a variety of dry grains.

Rivers, &c. The rivers and lakes are not of great extent or importance. The river Pundéroo takes its rise in Golcondah and enters the sea after a course of about thirty-three miles, near the village of Wootarah (or Ratada); the Sharadah rises in the hills west of the Vizianagrum Zemindary and running south-east enters the sea, also at Wootada, after a devious course of nearly seventy miles.

The Gostunny river also takes its rise in the hills west of Vizianagrum, and runs east to Bimlipatam, where it joins the sea.

The Champawatty rises in the north-west of the district, and runs eastward to the sea at Conadah. The river Sangola also rises in the hills in the north-west, by three separate heads, which unite a few miles west of Polcondah, close by which village it runs and afterwards forms the boundary between the Vizagapatam and Ganjam districts joining the sea a few miles below Chicacole, at the old port of Mafooz Bunder, now almost deserted.

Tanks are numerous, but there are only two lakes of any considerable extent, one near to Konda-churlah of about two miles, and another near Benavoolo, of three miles in circumference. There is likewise a marsh of several miles in extent, south of the village Wautenrawurdee, running parallel with the coast, which as well as the lakes abound with great varieties of water-fowl.

Climate. The climate is salubrious, and Waltair is much resorted to by visitors from inland stations during the hot weather. The temperature in April, May and June, is rendered particularly agreeable by the prevailing sea breezes, day and night. The along-shore winds, so relaxing to the constitutions of Europeans,

though common to Madras and the coast generally are not felt here. From the peculiar position of this part of the coast, projecting on the sea, the south winds become sea breezes; thus the injurious effects of these winds are entirely obviated. The hot land winds are almost unknown, being intercepted by the proximity of the hills. In the winter months the climate is not so cold as that of the neighbouring station of Vizianagrum.

The products of this district are principally rice and dry grain, which are exported in large quantities to several parts of the coast, much of the rice being also sent to the Mauritius. Arrow root, and a dye called Vasuntal-goonda (*Rottlera tinctoria*) grows wild on the hills in great abundance.

Salt is manufactured for the Company's monopoly at Currasah, Nellimookoo, Konada and Koopilli. The average quantity sold is about 170,000 maunds.

The manufactures are chiefly *punjams* and coarse cotton cloths, and from the latter, tents of a superior description are made; the export trade in cloth has however of late years fallen much into decay, from the produce being incapable of competing with cheaper cloth from the English market. Indigo to a small extent is also manufactured, and sugar has of late years become an article of production. Vizagapatam has long been celebrated throughout India for its manufactures in silver, ivory, sandalwood and buffalo horn; ornamental boxes, jewellery, and other articles in great variety, being made in considerable quantities.

Numbers of cooly emigrants to the Mauritius have been furnished from this district, and it has long been famed for its hardy race of palanquin bearers, from whence, and from Ganjam, all parts of the presidency of Madras are chiefly supplied with these useful servants. The population is given in the Statement above.

The only military stations in the collectorate are Vizagapatam and Vizianagrum.

The following is a description of the Sea Coast along this district, from Pentacotta at the south extremity to Santapilly, 10 miles from the northern boundary.

Pentacotta river is situated nearly 31 miles N. E. from Juggernat-

pooram and is the extreme south corner of the Vizagapatam district. The river entrance may be known by two moderately high sand hills close to it. There is also a small Coconut grove near the beach. About $3\frac{1}{2}$ miles to the northward, and 8 miles inland, is Toonce Hill of a conical shape, and remarkable from seaward. From this the coast continues the same direction to Wattara or Rattada House, a white bungalow situated on a hill at the south shore of the river. Wattara House is in lat. $17^{\circ} 26'$ N. long. $82^{\circ} 55'$ E. From this to Vizagapatam the coast continues nearly in the same direction but is slightly convex. The coast between Coringa Bay and Vizagapatam is safe to approach to 10 fathoms during the night; and when to the southward of Wattara, to 7 and 8 fathoms.

Vizagapatam in lat. $17^{\circ} 42'$ N., long. $83^{\circ} 21'$ E. may be known by a bluff head-land called the Dolphin's Nose, which has also a house on it near to the Flag Staff, and forms the S. W. point of the roads. This land is obscured by the high-land beyond it when viewed from a distance to seaward.

About 6 miles to the S. W. is Pigeon Island, which is close into the shore, and is inside the bight formed between the Dolphin's Nose and the first high-land to the southward of it.

The town is situated on the north side of the river: it is low, but there is a conspicuous white Mosque situated on a small hill above the landing place. About three miles to the northward of Vizagapatam is Waltair; where most of the Europeans reside. The houses are a little distance apart on a kind of cliff or rising ground. This is often taken for the town of Vizagapatam, and vessels have sometimes anchored abreast it until they have been informed of their mistake. The best anchorage for large ships is with the river's mouth open in 8 or 9 fathoms. Small vessels may anchor much closer in shore.

Bimlipatam is in lat. $17^{\circ} 54'$ N., long. $83^{\circ} 31'$ E. about 15 miles N. 40° E. from Vizagapatam. The coast between them is bold, having 8 fathoms within one mile from the shore in some parts. A hill projects out into a headland on the south side of Bimlipatam. There is a white Pagoda on the slope of the Hill just over the town, and also a ruined house on its summit with a few brab trees near it. Ships may anchor abreast the town in 6 or 7 fathoms. The entrance for boats is over a Bar, into the mouth of the river. The Bar is not passable at low water.

From Bimlipatam the coast runs nearly N. E. to Konadah *Point* between which it is slightly convex, and is safe to approach to 7 or 8 fathoms with the soundings increasing gradually to 30 fathoms, 10 miles from shore. Konadah *Point* is low with a few brab trees on it; and one and a half mile to the northward is Konadah *river*—nearly due East from Konadah river, distant from the shore $5\frac{1}{2}$ miles, is a dangerous patch of rocks called Santipilly or Sintapilly rocks in lat. $18^{\circ} 00' N.$, long. $83^{\circ} 46' E.$: the least water on them is 10 feet with 8 and 10 fathoms close to on all sides. During fine weather when the sea is smooth, the water does not break on this shoal. Between this and the shore the soundings decrease gradually to 5 fathoms near to the shore. Standing to the eastward from the rocks you carry regular soundings from 14 fathoms which is close to, to 23 fathoms $7\frac{1}{2}$ miles off.

There is at a little distance inland a high mountain which is conspicuous called Santipilly Peak, which is in one with the rocks when it bears N. $45^{\circ} W.$; but vessels ought to be guided by their soundings and not come under 16 or 17 fathoms when in this vicinity.

Since the survey of these rocks there has been a Light House erected on the main land on a sandy hill about 150 feet above the level of the sea. In ordinary weather it is visible from the deck of a ship about 12 or 13 miles.

The following are the bearings from the rocks by Captain C. Biden, Master Attendant at Madras.

Santipilly Light House..... N. $60^{\circ} W.$

Santipilly village with the highest distant Peak a

little open to the northward..... N. $55^{\circ} W.$

Vizagapatam.

The chief town is Vizagapatam, 498 miles from Madras. It is situated on the coast, in north latitude $17^{\circ} 41'$ and east longitude $83^{\circ} 42'$, in a small bay, the southern extremity of which is bounded by a remarkable hill, several hundred feet in height, called the "Dolphin's Nose," and its northern extremity by the cantonment of Waltair; the breadth across the bay being about six miles. Its population is 28,000. It was formerly an English Factory in the Circar of Chicacole.

The Port is separated from the "Dolphin's Nose" by a small river which forms a bar, where it enters the sea, but is passable for vessels

of from 150 to 200 tons burden, during spring tides. Within the fort are the barracks for the European invalid soldiers, the arsenal, the officers' quarters, and various public buildings. Immediately outside the fort gate, and in an open space, near which the pettah commences, is the garrison and European Veteran Company hospital, an upstairs building, which is in every respect well adapted for the accommodation of the sick.

Beyond the town to the north, are the lines of the Native regiments, and farther on is the suburb of Waltair, extending about three miles along the coast. In this direction most of the military officers including the General commanding the division, and Staff, and all the Civil officers of the station, reside.

The Parade ground, on the right of the sepoy's lines, is a square piece of ground, on one side of which are the barracks, and Native hospital. It is bounded on the south by the swamp before mentioned, about nine miles in circumference, which from having a free communication with the sea, is inundated every tide, thereby preventing offensive effluvia to any great extent. On the north side it is bounded by extensive mango and plantain gardens, in rear of the barracks and hospital, which are considered unhealthy, from the foliage being so thick as to obstruct the free circulation of air; the east side is partly bounded by the road leading to the town, and partly by a large tank, which contains water throughout the year. On the west is the village of Ullipooram, the dhobies' washing ground, and the principal burning ground, or that used by the Natives for the purpose of cremation.

The jail, first occupied as such in 1832, was formerly a Dutch Factory, it is situated within the fort in a very confined site. In 1830 an upper story was added for the accommodation of the court, and the ground floor is now used exclusively as the jail.

The Native town, (Vizagapatam proper) immediately adjoins the fort on its north and west sides. It contains many good streets, and numerous well built houses; but is much crowded, as the space on which it stands is shut in by a range of sand hills between it and the sea on the one side, and an extensive swamp on the other.

The soil in the immediate vicinity of the station, on the higher ground, is barren, and principally composed of a reddish gravel, with here and there large slabs of a very hard description of grey granite, but in lower situations, it is a rich and productive loam.

An excellent carriage road runs from the extreme end of Waltair to the fort, a distance of about four miles. The northern, or Waltair, side of the cantonment, is elevated considerably above the town, and is consequently much cooler. There being no space allotted for the houses of the officers of the Native regiment, they are much dispersed over the vicinity.

ZEMINDARY OF VIZIANAGRAM.

Situation and
Boundaries.

The Zemindary of Vizianagram is an extensive and important tract of country in the Vizagapatam district, paying a peshcush of 6 lacs of Rupees to Government. Its extreme northernmost village of Heeramandolum being situated 24 miles north of Chicacole, whilst the village of Paroovadah to the extreme south, is 16 miles to the southward of Vizagapatam; it has the sea on its eastern boundary, and the Causeeporium line of hills to the west.

The present Zemindar Vizcaram Gajapati Rauze is of an ancient and distinguished family. His ancestor Pedda Vizcaram Rauze erected the present fort at Vizianagram in the year 1712. In 1756, assisted by the French Commander Bussey, whom he invited to his aid for the purpose, he made himself master of the Bobily Zemindary,* but was afterwards immediately assassinated by some adherents of the Bobily family, and was succeeded by Aumunda Gajapati Rauze his nephew. This Zemindar marched with the British forces from Vizagapatam, was present, and aided in the taking of Masulipatam by Colonel Forde in 1749, and immediately afterwards when proceeding with his followers towards Hyderabad to obtain his Sunnud from the Nizam, died suddenly at Beizwarruh in the district of Masulipatam. Goondalah Appajee Row, the then Dewan, having been questioned by the Nizam as to the rightful successor of Aumunda Gajapati Rauze, he summoned Viziam Rauze, a child who, with an elder brother, Sectaram Rauze, was living with his mother, a widow of one of the Poosapauty family, at the village of Talapollim Cassimcotah. The younger brother was presented to the Nizam as the nearest of kin and the rightful heir, and he was placed in possession accordingly. Sectaram Rauze subsequently assumed the title of "Yoova Rauze" or second Rajah, and was in reality the director of the affairs of

* See "History of Northern Circars," page 1.

the Zemindary. The extensive costly gardens and other works at the Pagoda of Shimbachalum, 10 miles west of Vizagapatam, and the remains of Davoopilly Chodavarum, and other forts, are attributed to him. This supersession of the elder by the younger brother caused however at the time serious family discussions, and which were only settled by the brothers proceeding to the Presidency, and having an interview with the Governor. Seetaram Rauze shortly afterwards died near Madras, childless, and Viziam Rauze lived but a short time after his return to Vizianagrum. He was succeeded by Narrain Gajapati Rauze, generally called Narrain Bauboo, the father of the present Rajah, who in 1827 went to Benares taking with him his only child then an infant. Narrain Gajapati Rauze died there in 1845, and his son in the year 1848 returned to his Zemindary at the age of 22. He married at Benares and has three children; the eldest son having been born in 1850. He changes his place of abode between Vizianagrum and Bimlipatam according to the season. On the father proceeding to Benares he threw his Zemindary on the hands of the Collector, and it was kept under Circar management for some years. But on the present Rajah attaining his majority, the Government insisted on his returning from Benares and taking charge of his own district. This he did, but finding himself entirely ignorant of conducting public business, he requested Government to appoint one of their own officers to superintend the Zemindary for three years, and to put him in the way of managing his own Revenue affairs. This was sanctioned; and under the auspices of the officer appointed, the Zemindary has been brought into good order, and the Rajah trained to the routine of management. The country has lately been given up to him, and it remains to be seen whether he will continue the line of conduct to which he has hitherto adhered.

The Zemindary is divided into 11 Talooks or Tannahs, and has an ascertained total population of 5,61,748. The Talooks are arranged and populated as follows, and are subdivided into several Mootahs, according to the size and necessities of each, and presided over by a Saivordar under the general supervision of the Ameens, whose duties require him to remain for the most part at his chief station with his establishment paying personal visits, as requisite to each Mootah of his Tannah; all the larger Talooks have 5 or 6 subdivisions and sub-officers of this description.

1. *Vizianagram* Tannah with its chief town bearing the same name is composed of 213 villages and hamlets. Population 95,985. The dry and wet land cultivation is in about equal proportion.

2. *Goodvadah*, to the east of Vizianagram has 180 villages and hamlets within its division ; its chief station is Vencatapoor. Population 65,553. This Talook is for the most part of dry cultivation.

3. *Bomunghy* to the west has 98 villages, the chief station is Cotiam. Population 48,410. The lands of this Talook are chiefly under wet cultivation.

4. *Coomaram* Talook to the north of Vizianagram has 319 villages attached to it, its chief station is Checpooropully. Population 91,520. This Talook on its western extremity is bounded by the Bobily and Saloor Zemindaries. It is composed of $\frac{2}{3}$ of dry and $\frac{1}{3}$ of wet cultivation.

5. *Gajapatinagram* Talook to the northernmost of Vizianagram, its chief town and station bearing the same name, has 167 villages and hamlets attached. Population 46,301. Adjoining this Talook on the west and northern extremities are the Andrea, Saloor and Bobily Zemindaries. Its cultivation is chiefly wet land.

6. *Padagandy* to the south-east of Vizianagram with its chief town of the same name, has 226 villages and hamlets. Population 67,656. The cultivation is in equal proportion of wet and dry land.

7. *Vapadah* to the south-west has 90 villages, the chief station is Lacavarapocotah. Population 34,029. Its cultivation is chiefly wet supplied by tanks and the local falls of rain. An ancient and channels are under construction to afford it a regular and abundant supply of water from the river.

8. The adjoining Talook to the southward of Vapadah is *Alumundah*, its chief station is Gavaravasum, it has 48 villages within its division. Population 31,223. This is almost entirely wet cultivation from river irrigation.

9. *Chodaranen* still to the south of Alawandah has 123 villages and its chief station bears the same name, but is entered upon the usually published maps Annavarum. Population 40,684. Its cultivation is chiefly wet and sugar-cane.

10. *Nadapoor* Talook is to the southward of Vizagapatam, its chief station is Nadapoor, it has 84 villages and hamlets within its di-

vision. Population 20,980. This Talook consists of $\frac{3}{4}$ dry, and $\frac{1}{4}$ wet lands.

11. *Stree Coormum*, the 11th Talook, is situated to the north of Chicacole, and takes its name from its chief station. This Tannah is composed of 53 villages and hamlets, and has a reported population of 15,547, the greater proportion of the lands of this Talook are wet.

In addition to the foregoing, four villages belonging to the Zemindary, Yalamunchly, Punchadharlah, Chinloorah, Croosharamapalem, having a collective population of about 3,000, are situated within the *Government* Talook of Survasiddy, still to the south of Nellemocoo; and one, Cotipully, in the Rajahmundry district, giving a total number of villages and hamlets of 1,588 belonging to the Vizianagrum Zemindary.

The Zemindary is irrigated by three considerable rivers traversing its whole width from the hills, a distance of about 35 miles, and flowing into the sea at the ports of Conadah, Bimlipatam and Vataadah to the southward.

From the extent of the Zemindary and the difference of soil, &c., there is a variety of crops raised; some highly important—sugar-cane cultivation has been introduced to a very considerable extent—oil seeds (*Sesamum Orientale*) are very abundantly produced and largely exported to France—castor oil and lamp oil seeds, horsegram, tobacco, greengram, jounaloo, form the dry culture common to the country; and paddy cultivation is carried on very successfully wherever tank or channel irrigation permits. In some localities the lands produce three crops a year.

The mineral resources of the Zemindary have not yet been fully developed. Manganese ore of great purity has recently been discovered to a very considerable extent in the Coomaram Tannah, and plumbago abounds in many localities, as also very fine porcelain earths, felspars, quartz, garnets, micas, talc of great purity, and of every variety and colour. These with limestone, gneiss, and granites, are the chief formation, magnetic and other iron ores are also to be met with on the isolated hills on the plains which are chiefly conical and bear evidence of volcanic construction.

The highest of the Causerpoor range of hills is supposed to be about 3,000 feet, though from their unhealthy nature no precise information

has hitherto been obtained regarding them. Very fine plumbago is known to abound in these hills; it is used extensively in the potmaking trade as a polishing substance.

Vizianagram.

A Military station in the Zemindary of Vizianagram. It is in north Latitude $18^{\circ} 2'$ and east Longitude $83^{\circ} 32'$, 15 miles distant from the sea. This place is situated in a rich undulating country at the foot of a group of hills about 12 miles distant. It forms an extensive town with a spacious busy bazaar, but the buildings are generally mean and small. The population of the town is 14,700 and of the cantonment 1,270. There is generally one regiment of Native Infantry, and a company of Artillery stationed here. The town is connected with the seaport of Bimlipatam, distant 16 miles, by an excellent road. A good road for carts has also been lately opened to Gajapati-nagram, a large mart for export and import commodities, distant 16 miles in a north-west direction in the immediate vicinity of the hills.

The surrounding country is almost entirely under cultivation, and the soil is a deep and very productive alluvium.

The crops raised are chiefly rice, coolie, maize, natcheny and oil seeds: most of the other ordinary productions of the country are also to be had; oranges in great perfection are raised in the neighbouring hills, and the cultivation of potatoes has been tried successfully on the same.

In a northerly direction rise numerous ranges of hills connected with the eastern ghauts, and in the vicinity of these fever is always very prevalent. The smaller hills arising from the plains, which formerly were covered with trees, have been denuded by the woodcutters, though covered here and there with stunted underwood localities. The climate from September till March is salubrious, and the European residents from Waltair and Vizagapatam occasionally remove hither during these months. The average observation of a registered Thermometer from March to July 1851 are the following:

Max.	Min.	Mean.
90 $\frac{1}{2}$	81 $\frac{1}{2}$	86 $\frac{1}{2}$

The average from the month of November to the beginning of March.

Max.	Min.	Mean.
80°	65°	70°

In the month of March the weather becomes warm, and towards the middle of the month the hot land winds generally commence.

In the month of May there are in general occasional showers; towards the beginning of June, they become more regular and heavy. July, August, September and October may be considered the monsoon months, and in November there are occasional heavy falls, the average quantity of rain during the years 1850 and 1851 has been about 45 inches, being some 3 or 4 inches less than at Madras.

At the distance of one mile from the cantonment which is placed on ground sloping gently to the northward, is the village of Vizianagrum, and lying between them, a large tank or lake which contains water at all seasons of the year. The inhabitants of the village are chiefly weavers and cultivators of land. The station contains about twenty-six officers' houses, the greater part of which are tiled, but some are well thatched with the cadjan leaf. A Church capable of accommodating about 150 persons has recently been erected, and the station is visited by the Chaplain of Vizagapatam once in three months. The burial ground is situated within the cantonment: there is an excellent travellers' bungalow, and a Racket Court has lately been erected.

A quadrangular stone fort with four enormous round bastions of European construction incloses the palace of the Rajah, having an open square in the centre, an arcaded hall of audience, reservoir and fountains, without any pretensions to magnificence; the whole until recently has been in a neglected state.

The roads in the immediate vicinity are well laid out and kept in good repair by private funds.

The barracks, or places of arms, are immediately in front of the parade ground, facing the south, and running east and west.

The officers' quarters are situated on the west side of the barracks, and immediately behind them on the north are the sepoys' lines.

On the east and in a line with the barracks, is the hospital, a large and well constructed building surrounded by a verandah, capable of containing sixty patients. It may be worthy of note that *cholera has never been epidemic in the cantonment.*

Bimlipatam.

The town of Bimlipatam lies on the coast about 16 miles north of Vizagapatam in Lat. $17^{\circ} 54' N.$, Long. $83^{\circ} 31' E.$ It was formerly a settlement of the Dutch. Tombstones well engraved, of the date of A. D. 1623, are yet to be seen in the old burial ground. It was for a long time celebrated for its cotton piece goods, which the East India Company largely exported. The trade is now limited and chiefly to the straits through Native merchants. Bimlipatam is now noted for the extensive sugar works of Messrs. Arbuthnot and Company at Chittawalsa three miles off, where the latest English machinery has been introduced, and upwards of 6,000 tons of sugar are already exported annually. There are also three Indigo factories at or near Bimlipatam.

RAJAHMUNDRY.

THIS District is bounded on the N. W. by the Hyderabad Country ; on the north by the Nagpore Territory, and on the N. E. by the Vizagapatam District. On the east and south-east by the Bay of Bengal, and on the south-west and west by the District of Masulipatam. It lies between N. lat. 16° 18' (Narsapoor Point) and 17° 35' North.

RAJAHMUNDRY, FEELS 1262—Area=6,050 Square Miles

Talooks.	Number of Villages.	Population.	Extent of Land taken up			Land Revenue.	Extra sources of Revenue.
			Wet and Garden.	Dry.	Total.		
1	2	3	4	5	6	7	8
			Acres.	Acres.	Acres.	Rupees.	
1 Amlapoor.....	80	72,162	17,544	20,960	38,504	1,48,454	2,48,423
2 Nuggarua.....	48	52,104	8,440	17,928	26,368	1,06,396	4,090
3 Ralli.....	40	43,979	728	15,928	16,656	88,521	77,495
4 Kapaverum.....	93	56,562	14,400	52,704	67,104	1,70,125	11,338
5 Kotta. Ramachan- drapuram ..							55,532
6 Kottapilly..	55	58,316	2,000	27,096	29,696	1,50,765	44,088
7 Rajahmundry ..	57	18,709	9,904	33,880	45,784	57,841	14,392
8 Bickavole.....	18	29,348	16	8,312	8,328	42,716	
9 Peddipoor.....	48	40,666	20,720	13,288	34,008	1,21,044	
10 Linguaapurroo..	14	21,017	3,192	3,928	7,120	44,003	
11 Woonpāda, &c..	108	12,203	7,520	9,480	17,000	26,754	
12 Andrumty, &c..	3	3,272	944	488	1,432	4,147	
	3	6,685	328	552	880	2,710	
Sub-Division.							
13 Mogutoor.....	69	86,549	13,048	29,624	42,672	1,59,531	
14 Wondy.....	91	44,955	32,624	14,664	47,288	1,43,736	
15 Tunnakoo.....	65	61,745	1,504	40,224	41,728	1,74,345	
16 Tadenulla.....	49	21,220	4,640	19,368	24,008	34,810	
Total Government.	841	6,29,492	1,37,552	3,11,024	4,48,576	14,75,900	
Zemindaries & Pro- prietary ..	408	3,82,544			2,17,608	5,91,187	
Grand Total	1,249	10,12,036			6,66,184	20,67,089	44,55,958=25,23,045

The aspect of the country is very different in the north-west portion of the District to what it is in the south-east. Towards the west the country is elevated and picturesque, and farther north ranges of mountains clothed with wood bound the

scene. About 40 miles N. N. W. of the town of Rajahmundry, the Godavery enters the District through one of the magnificent gorges in the hills. There is a pleasing view from the top of the Court House at Rajahmundry, where the Godavery is generally deep, and clear, and about $1\frac{1}{2}$ miles in width; the water being kept at a high level by the annicut at Dowlaishwaram some 6 miles to the S. E. In the eastern and south-eastern portions of the District towards the sea, the country is flat, and uninteresting, except as far as the eye is relieved by the sheets of fertile land due to the irrigation of the Godavery. The Annicut or dam thrown across this river in 1816, is still adding greatly to the breadth of rice cultivation, and the general welfare of the people, by supplying their tanks, and affording means of communication by navigable canals.

Rivers, &c. The Godavery is the only river of any name in the District. At Dowlaishwaram where the Annicut is built it divides into two streams, the country between which is generally called the Delta. The branch that flows to the eastward is called the Gautāmi, and passing by Neelapilly and the French Settlement of Yanam debouches soon after into the sea, 2 miles south of Coringa. Coringa itself is on a small river a kind of streamlet from the Godavery. Near the sea, the Godavery forms numerous sand banks. The branch that flows to the southward, is called the Varishta, and enters the sea 4 or 5 miles south of Narsapoor. There is another branch which takes off from this and flows easterly to the sea near Bendamoorlunka. This branch is called the Vynatyen.

In the rainy season the Godavery overflows its banks, and numerous islands or "lunkas" have been formed by the deposit left on the subsidence of the river. The soil of these lunkas is rich, and yields crops of tobacco of a superior quality. The banks of the river have however lately been raised and strengthened in several places; the spread of water during the floods is therefore not now so great, and considerable changes are taking place in the lunkas.

The Godavery where the Annicut is built across, is 4 miles wide, but three small islands in the stream form as it were abutments between which are the walls of the Dam. Its cost has been about 9½ lacs of Rupees (£950,000) and the canals, and irrigating channels excavated in connection with it are estimated at about 15 lacs (£1,50,000) more. They are not however all completed yet, (A. D. 1854.)

There are four divisions of the Annicut, separated by the three islands (one of them is rather the point of a tract widening to a base of some miles towards the sea) before mentioned.

The 1st branch or wall from the east or Dowlaishwaram side is 1,624 yards long. It spans from Dowlaishwaram to the 1st island called "Pitchika lunka." The 2d branch is the Rālee, 954 yards long spanning from Pitchika lunka to the head of the island which forms the Rālee talook. The 3d portion is the Muddoor, 516 yards long, and spans to the island called "Muddoor lunka." Between this and the main is the 4th or Vijéswaram branch 862 yards long, spanning to the village of Vijéswaram on the west bank.

The main artificial channels are the Samulcottah and Thooliah Bāga, led off from the east or Dowlaishwaram head-sluice. There are other channels in progress. The Rālee channel irrigates the Rālee talook or Delta proper, and from this stream water is conducted over the Gunnaverum aqueduct to irrigate the Nuggarum talook.

The Palcole, Kakerpurroo, Venkiah, Nukkala, and Yelmunchilly channels water the western tract including a portion of the District of Masulipatam. The three first of these are also navigable.

The *natural* rivers in the Delta are the Thooliah, the Weiyairoo, the Gosta Nuddee, and several minor streams all of which have been improved—and the two first embanked and *locked*, to adapt them for navigation. The traffic on the Thooliah Bāga between Dowlaishwaram and Cocanada is already very considerable. The distance is rather more than 30 miles. The Weiyairoo, with the aid of the Venkiah channel has been rendered navigable to within 18 miles of the town of Masulipatam, and boats can now pass from above the Annicut, by the salt river, which debouches between Chinna Gollapollem and Samuldivi to the sea.

Dowlaishwaram is the Head Quarters of the Civil Engineer's division. Most of the Officers' houses are built on a rocky hill about a mile from the river. The Government Workshop and Foundry where a steam engine is constantly employed—the Quarry—and other works in the vicinity—and the little steamers plying to and fro, give an air of activity to the place which is not to be seen in other parts of the country. The Native population of the village amounts to upwards of 4,000. Midway between Dowlaishwaram and Rajahmundry is situated the Sugar Factory of Messrs. Arbuthnot and Co., which has now

been established some years and caused a great impulse to the trade and prosperity of the District. The annual expenditure has been lately between 4 and 5 lacs, and a similar sum was spent in 1853 by Government on the Public works.

The only large tank in the District is that of Lingamparty constructed about 170 years since by a Zemindar of Poddapoor. It is formed by a large *bund* thrown across a gorge in the hills: in form it is triangular, of about a mile in breadth at the base, and of about two miles and a half in length.

Natural
Productions.

The agricultural products are about thirty kinds of paddy, jonnaloo, guntuloo, gingely, grams, cotton, plain-tains, sugar-cane, betel, tobacco, garlic, chillies, turmeric, &c. The tobacco, as before observed, grows on the lunkas. The sugar-cane is cultivated in the Poddapoor talook and Pittapoor Zemindary, along the banks of the Yellairoo stream which, though small, has a constant flow of water through the year. A considerable quantity of sugar is also raised in the Delta of the Godavery. The cultivators do not attempt to raise a crop from the same spot oftener than every third or fourth year, but during the intermediate time, plants of the leguminous tribes are cultivated. Six pounds of juice from good canes yield one pound of sugar. The refuse is given to cattle or carried away by labourers. The cultivation of cotton is general in Rajahmundry, but from the nature of the soil and surface, more especially in the parts remote from the coast, the produce is not great in amount or superior in quality.

Salt is manufactured for the Company's Monopoly at the two Cotuurs of Pittapoor near Cocanada, and Mogultoor near Narsapoor. It is sold for consumption, both in the district and beyond the frontier, and also in considerable quantities, (about 50,000 maunds,) for exportation by sea to Calcutta. The sales of the last six years have been on an average $2\frac{1}{2}$ lacs of Bengal maunds per annum, including about 1,500 maunds sold annually at cost price to the French Settlement at Yanam.

The agricultural implements in use are of the most primitive kind. The common Native plough has been found to answer best, the iron ones manufactured at Porto Nove having been found too heavy for the cattle which are of a small, and of a stunted breed from the scarcity of food in the hot weather. Sheep and goats are numerous, and are kept in considerable numbers on account of the manure they yield.

Manufactures. Of the manufactures of Rajahmundry the chief are the cloths, which, in by-gone times had a high reputation in the English markets. Napkins, table cloths and drills in imitation of the produce of Europe, are made in considerable quantities. Muslins of fine quality are made at Oopauda near Cocanada. The carpenters of Rajahmundry are skilful workmen, especially in the vicinity of Coringa, where they are much engaged in ship and boat building.

Sporting capabilities. As a sporting country Rajahmundry has many recommendations. The Hills are full of tigers, bears, cheetas, wild hogs and peafowl—in the plains and jungles are abundance of antelope and spotted deer,—the sambur and porcupine are constantly met with and occasionally the bison. Of the feathered tribe, the aquatic birds are by far the most numerous, though florikin abound in some parts of the district.

Sailing Directions. The most southern part of the district on the coast, is Narsapoor Point, which forms the western shore of the river of that name. It is in Lat. $16^{\circ} 18' N.$, Long. $81^{\circ} 41' E.$ From this a shallow flat extends with 4 fathoms on it about $2\frac{1}{2}$ miles from the shore. The channel leading into the river is between two sands on which the water breaks: the least water in it is 5 feet at low tide. Narsapoor Point bears from Point Divy N. $56^{\circ} E.$ distant about 38 miles.

From Narsapoor Point the coast stretches along about N. $62^{\circ} E.$ to Bendermoorlunka river in Lat. $16^{\circ} 23' N.$ The coast between is thickly wooded but low, and is safe to approach to 6 and 8 fathoms, but the soundings to seaward deepen suddenly to 50 and 100 fathoms about 9 miles off shore. From Bendermoorlunka the coast runs N. $60^{\circ} E.$ 15 miles, and then N. $45^{\circ} E.$ 15 miles more, where there is a small grove of brab trees near the beach, bearing from Coringa Light House S. $\frac{1}{4}$ W. 14 miles.

The coast between Bendermoorlunka and this grove is low and sandy, and in hazy weather is seldom visible more than 4 or 5 miles off. From this grove the coast runs N. by E. $\frac{1}{2}$ E. till abreast of Coringa Light which is 2 miles in shore in Lat. $16^{\circ} 49' N.$, Long. $82^{\circ} 18' 20'' E.$ near the N. E. extreme of the low jungle at the entrance of the Godavery river. The coast is all very low and shrubby, and ought not to be approached under 10 fathoms, in doing which great caution

is requisite as the bank of soundings extends but a few miles to seaward. The spit of sand forming the north point of the bank on which the Light House is built, runs out considerably to the north of the Light House to about Lat. $16^{\circ} 51'$.

A Vessel bound into Coringa Bay with a *fair* wind from the *southward* ought to stand along shore in 10 or 11 fathoms until the Light House bears west. She may then continue a northerly course keeping in 10 fathoms until the Light House bears S. W. She will then sight the Flag Staff at Juggernaikpooram to the westward, and ought to haul in towards it, not coming under 6 fathoms until it bears W. $\frac{1}{2}$ S. or W. by S.: she may then stand direct for it, and anchor in 4 fathoms soft mud, the Light House bearing S. by E. $\frac{1}{2}$ E., and the Flag Staff W. by S. $\frac{1}{2}$ S. In the N. E. monsoon, the anchorage is about $\frac{1}{2}$ mile more to the eastward in 5 fathoms. This Flag Staff is in Lat. $16^{\circ} 56' N.$, Long. $82^{\circ} 13' 15'' E.$ It is situated a mile in shore, on the south side of a small creek which divides it from the village of Cocanada, and at the mouth of which creek is the landing place.

Vessels bound into Coringa Bay with a *working* wind from the *westward* ought not whilst under 9 fathoms to bring the Flag Staff to bear to the northward of W. $\frac{1}{2}$ S., and should stand over in a north westerly course to the other side of the Bay to 6 fathoms, and then tack to the anchorage. At the extreme end of the spit the Flag Staff bears W. by N. distant 8 miles, and the Light House S. S. W. 5 miles.

The town of Coringa is not visible from the anchorage. It is situated on a small branch from the Godavery river, which is fast filling up; though it is expected that Government will employ a steam dredge to keep it clear. The channel leading to Coringa from the anchorage off Juggernaikpooram is very narrow, and in some parts has not more than $3\frac{1}{2}$ feet at low water. There is a *bar* at the mouth of the river, and vessels are often kept here for weeks when going in for repair, waiting for a high tide. The rise and fall of tide at the river entrance is about 7 feet.

Coringa Town bears West from the Light House, distant $5\frac{1}{2}$ miles, and from Juggernaikpooram nearly south, 8 miles.

The Telugos are As Rajahmundry is the centre of a semi-circle occupied by a nation who speak the Telooogo language.

this appears to be the proper place in which some account of that language may be introduced.

The people who speak Teloogoo are called Telingas. The language borrows largely from Sanscrit, and, in colloquial use, from Hindoostanee; yet it is an original tongue; and he that is already acquainted with Sanscrit, with Hindoostanee, or any other language, may yet find himself unable to understand poetry, correspondence, or conversation in Teloogoo.

The alphabet used shows that Teloogoo originated in the *Carnataka* language, spoken in the centre of the Peninsula. This language is commonly called *Canarese*, but its use is by no means confined to Canara. It is spoken throughout Mysore.

The ancient Teloogoo princes are spoken of as *Carnataka Doralu*; but in modern days, the two languages Canarese and Teloogoo are as different as Welsh and English. All Sanscrit literature in this part of India is preserved in the *Teloogoo character*, in which, as in the other alphabets of Southern India, Sanscrit is written with perfect ease. Indeed, it is rare to meet with any Sanscrit volume in any other character. The pronunciation of Sanscrit among the Teloogoos corresponds with the purest pronunciation used at Benares. The Teloogoos frequently advert to the idea that Sanscrit is the mother of their language, just as in older times, we used to look upon Latin as the source of English. This notion very naturally arises from their ancient grammars being written in Sanscrit, and constructed on Sanscrit principles, yet Sanscrit is far from being generally cultivated; perhaps, among the educated classes, one-third of the Teloogoos can read the vernacular poets; and of that third, not one in twenty has ever been instructed in the Sanscrit literature.

Others assert that at least Teloogoo poetry originates in Sanscrit, but in orthography all the laws of permutation and elision are widely different, and every law of the Teloogoo prosody is totally dissimilar to Sanscrit, although five or six metres, (out of some hundreds) have been imitated from that language.

The circle which has been mentioned does not include all those parts of the Indian peninsula where the language is spoken; for the Teloogoos have emigrated to various parts of Southern India; thus a knowledge of their language will be available in the Tamil districts, and particularly in the neighbourhood of Madras. We find however

no signs of immigration into the Telooگو districts; the tyranny of the Mussulman rulers of Telingana in former days, is generally referred to as accounting for this fact.

Christianity has hitherto made little progress among the Telooگوs, the bulk of whom are Hindoos, of the two brahminical sects, followers either of Vishnu or Siva; or else the Jungannas, who look upon the others as mere idolaters, while they themselves worship the symbol of Iswara, "The Supreme," suspended on their breasts. The Mussulmans are widely spread through the country, but are in a degraded state; they continue to talk Hindoostanee, but few can write it; indeed, they are so illiterate, that their accounts and correspondence generally are in the Telooگو writing of a Brahmin. Under their dominion, which lasted about a century and a half, Telooگو literature fell very low, and has only gradually revived under the British Government. Yet no part of the ancient and favorite volumes has perished, and a great fondness for their popular poems has been in recent days the motive of continual publications that issue from the presses at Madras.

When we first read their poems, we are led to suppose that the dialect used is entirely different from that we daily speak and write, but a little advance in knowledge will show us that the polished dialect of Telooگو, used by the poets, deviates no more from the spoken dialect, than the language of Milton, Pope, and Byron differs from the English we speak and write. From the harmony of this language, some have called it the Italian of India. Doubtless in the poems, and in the pronunciation of retired villages, it is very melodious, but like Italian, it has many a rough and coarse dialect, and the Telooگو used in our courts of justice, is a strange jargon, in which English and Persian phrases are thickly interspersed, forming a jumble that is at first difficult to an Englishman who otherwise may be a good proficient in the language.

In another very important respect it resembles Italian, for no part of the language, not even in the oldest poems, has become obsolete, and to a beginner, we could not recommend an easier volume than the *Prabhu Linga Lila*, which is supposed to be about seven hundred years old. Some attribute it to a more remote age, but certainly it was written before the Mussulmans invaded the country. The Telooگوs themselves think that the dialect used in the northern (or what

they themselves call the eastern) part of the country is remarkably elegant ; and the worst dialect is that spoken at Madras.

A foreigner may be excused for perceiving little difference ; it appears to be every where equally corrupted with Hindoostanee and English phrases : nay, some of the modern poetry, (witness the tale of *Bobbili*, and the *Bhahra Cari Velpa Satucum*), is full of foreign words.

Rajahmundry.

The chief town in the district, is 365 miles from Madras. It is situated on the left or north-eastern bank of the river Godavery, in Lat. $16^{\circ} 50' N$ and Long. $81^{\circ} 53'$ east. It is built on somewhat elevated ground, and consists of one principal street about half a mile in length, running nearly due north and south in which is the chief bazaar. The houses on each side are generally of one story in height, are built of mud and tiled. Several narrow lanes run out of the principal street, east and west : those to the west proceed to the bank of the river, in an oblique direction, and consist of mean houses built of mud with here and there a large upstaired dwelling, the property of the Zemindars of the district, and of some respectable inhabitants who are chiefly Brahmins. The streets on the east side of the bazaar are narrow and very irregular, consisting of houses of the same description, occupied by persons of various castes. The Godavery is here nearly 2 miles wide, and crossing it was formerly a tedious business, especially during the freshes. An enterprising Company however have recently established a steam ferry.

The population of the town amounts to about 14,700, one-tenth of whom are Brahmins and Mussulmans, and the remainder Sudras and Pariahs. The Mussulmans are comparatively a poor race ; many mosques however, are still standing, which show that formerly they must have been wealthy and numerous.

The Fort is situated to the north of the town, and is in the form of a square, having high mud walls, and a ditch now partially filled up. It is usually garrisoned by two companies of the Native regiment stationed at Samulcottah ; the barracks, hospital, jail, magazine, and lines of the detachment are within the fort. The barracks are situated in the south-east corner, and consist of one long puekah building with a tiled roof.

The Hospital of the cantonment is a long and narrow edifice on a rising ground immediately under the wall of the fort—it is open and airy, sheltered from the rain by two large tamarind trees. The lines occupied by the detachment consist of four rows of thatched huts. The magazine was formerly a small Native temple built of large slabs of black granite. The jail is a square building in the centre of the fort calculated to hold 400 prisoners. It is built of substantial materials and flagged with large stones. Within the fort are likewise the Civil and Session, and Subordinate Court Houses, besides one good private house, at present occupied by the Government Provincial School. On the northern rampart of the fort is a neat little Church, recently erected by subscription.

Narsapoor.

A town at the extreme south of the district situated on the Vashista branch of the Godavery about 6 miles from its mouth. Adjoining it is what remains of the town of Madapollem, once famous for its cloths. The trade has very considerably diminished since the abandonment of the manufacture by the Company's Government. The average annual expenditure in the district on this account in former times was for both factories, (Neclapilly and Madapollem), 8 lacs, one-third of which was probably spent on account of the latter, and the exports were proportionately large. The factories were abolished in 1827. Tent cloth of a superior strength and quality is still supplied by contractors to the Commissariat Department at Masulipatam, but it is *manufactured* for the most part in the neighbouring villages of Rajahmundry. The former factory buildings, godowns, and premises, have now become private property. A portion of the ground is occupied by the Travellers' bungalow, and for the remainder negotiations have been made with the owners for its appropriation to building purposes. Three-fourths of the site on which the old town of Madapollem formerly stood, has been carried away by the annual encroachments of the Godavery, and to provide shelter and accommodation to those whose houses have thus been destroyed and for the increasing population of Narsapoor, a new pottah has been projected by the local officers, and the payment of the necessary equivalent in land or money to the owners of the ground on which it will be built has been sanctioned by Government. The population of Narsapoor and Madapollem combined is about 8,000.

Narsapoor is also a seaport, now frequented chiefly by Native craft, but in the time of the Honorable Company's cloth trade it was resorted to by English ships of large size. Vessels are built and repaired in mud docks on the banks of the river—the anchorage is several miles from the mouth, depth 5 or 6 fathoms. At high tide there is about 8 feet of water over the bar; outside the bar is a shifting sand bank, which has much increased in size of late years, and the entrance is from the south between the sands. Lightly laden vessels enter the river by a circuitous channel, known to the Native pilots. Most of the cargo is discharged at Antavedy, a place of religious resort situated near the sea, close to the river's mouth. There is no doubt that much might be done to improve the bar, and with the removal of the impediments which now exist, Narsapoor would probably in time recover its former importance as a seaport. The annual value of exports now amounts to about a lac of Rupees, notwithstanding the utter want of any proper approach to the town. With a fine navigation canal leading from the principal agricultural towns in this part of the district, and with an improved exit from this branch of the Godavery, which is no less than 40 or 50 feet deep opposite the town, Narsapoor would in a very few years become the important place of trade for which its natural position seems eminently to adapt it. There are many resident merchants of wealth and respectability, but in consequence of the difficulties encountered at their own port, they are obliged to transfer much of their trade to Coringa. European capital might be laid out here to great advantage, and a resident European merchant of experience and energy might expect success. The climate is excellent, and seems peculiarly adapted to the European constitution; the health of the Native inhabitants also is remarkable, and living is particularly moderate. Narsapoor is the residence of the Sub-Collector of the district.

Narsapoor possesses an English and Vernacular School for boys, and also a girls' School, both of which have been founded and are carefully supervised by the present local Revenue authorities. They are supported by local subscriptions, chiefly from the Native inhabitants. The number of pupils receiving instruction in the former is between 70 and 80, and in the latter about 30. There are likewise missionary Schools for boys and girls attended chiefly by the lower castes. There are also branch Schools in several of the large towns of the Sub-Collectorate, at Palode, Pennagonda, and Asunta.

Palode

Is 6 miles from Narsapoor. It was formerly a Dutch town of some importance—and is still a place of considerable trade; the weekly market is numerously attended. There are a few resident descendants of Dutch families, and an English Baptist Missionary resides there, who also farms a considerable quantity of land. The School is chiefly supported by the comaties or traders, and numbers nearly 50 scholars. There is also a Missionary School for the lower castes.

Pennagonda

Was the former residence of one of the ancient Zemindars. It lies north of Narsapoor, 16 miles on the direct road to Rajahmundry. This road, almost the only one in the district, is called Forbes' road, from the name of its projector, the former Sub-Collector. It joins the river bank at Kakerpunnoo, which has been much cut up by successive floods of the Godavery, and by the numerous channels which now enter into the country. It will be in a great measure superseded by the fine navigation canal now in progress from the Annicut to Narsapoor and Mogultoor, by Pennagonda and Palode.

Asunta

Is one of the largest and richest agricultural villages in the district; it yields an annual revenue of nearly 18,000 Rupees, and is now watered by Annicut channels. The inhabitants are generally in a most prosperous condition, and at their desire a School was established in the village.

Mogultoor.

This town has greatly fallen off of late years. It is situated 5 miles from Narsapoor on the road to Musulipatam. The Tahsildar's Talook Cutcherry is here, and also the Salt Darogah's. The Pans and the Cotaar are close by. Outside the town is a fort of mud walls, inhabited by a pensioned Rajah, the descendant of the ancient Zemindar, who once possessed the greater portion of the tract in the district west of the Godavery.

Razole.

Is in the Nuggarum talook which is watered by the aqueduct whose 59 arches span the Vynatayam branch of the Godavery. Is a thriving little village, remarkable as the locality chosen for the establishment of a sugar factory, and for the manufacture of rum distilled by the European method. Want of capital alone has prevented the European gentleman, to whom the establishment belongs, from carrying out his project with success; but with certain irrigation for the future, the extension of sugar-cane and the cultivation of other valuable products, affords a wide field of enterprize to all who have a moderate capital and a good stock of energy and perseverance to carry them through the first difficulties they may encounter.

Cocanada.

This large village is the station of the Collector and Head Assistant. It is on the coast in Lat. 16° 58' N.; opposite to it is the anchorage for ships landing or receiving cargo for Coringa, which town is some miles distant up one of the small offshoots of the Godavery, where large vessels cannot enter. (See Sailing directions.) Cocanada is a rising place, the residence of several European merchants, and of the Master Attendant. The exports are annually increasing, and by means of the Annicut channels there is water communication with all parts of the district. A commodious canal boat for passengers and light goods runs daily to and from Rajahmundry about 37 miles. When the Godavery navigation is opened towards the Nagpore country, Cocanada will become a still more important place, for it will then be the port of shipment for all the cotton which is now conveyed from Berar by tedious land journey to Bombay. Its roadstead is very secure in the S. W. monsoon, and ships may be safely hauled over for repairs. Landing is easily effected in common sailing boats. Separated by a small stream which forms the entrance for boats, is the village of Juggernaikpooram. It may in fact be considered part of Cocanada. A neat little Church has lately been built here.

Coringa.

About 9 miles S. W. of Cocanada, is the only place between Trincomalee and Calcutta where ships can be docked, but the mouth of the ri-

ver is shallow and filled up with sandbanks which have so accumulated of late years,* that vessels are now obliged to anchor off Cocanada.

The river off the town of Coringa is narrow and deep, and English and Native vessels are built on its banks and repaired in mud docks. Though the English vessels are but few, Coringa can boast of some 300 Native craft, varying from 70 to 400 tons burthen, and affording employment for a large sea-faring population. A brisk trade is kept up with Moulmein, Rangoon and the Tenasserim Provinces, to which places there is a considerable annual emigration; the emigrants remaining 3 or 4 years, and then returning with their savings. Numerous vessels are employed in the conveyance of salt to Calcutta, and the remaining trade is chiefly coasting. The houses for Europeans at Coringa are few, the merchants being principally Natives.

Two miles inland from Coringa on the banks of the river is the town of Tallacavoo, inhabited chiefly by persons connected with the shipping, and a couple of miles further inland, are the yards of two European ship builders; one mile still further, and five miles from Coringa, stands the town of Neclapilly close to which is Ingeram. These were very important places before the abolition of the E. I. Company's trade, and the old factory buildings and houses, occupied by the commercial resident and his staff, still remain. Both these towns are now much deteriorated, and the cloth trade which in former days amounted to many lacs a year, has fearfully diminished under the influence of Manchester competition; one or two European Merchants still reside here. The country is very low and annually submerged during the Godavery freshes.

The only obstacle at present existing to the construction of vessels of a large size, which might otherwise be built in any part of the river between Coringa and Neclapilly, is the shallowness of the water on the Coringa bar, and this has hitherto prevented the yards from turning out any craft of a greater burthen than 500 tons; (the vessels that have been built here of that size are as good as English built.) The same cause prevents the admission of large ships for repairs. A dredge is now at work on the bar, and some improvement has already been effected in the channel. It is hoped that it may be effectually deepened, so that large ships wanting repairs may no longer be

* The Light House on Hope Island is now 8 miles from the water mark, and needs to be heightened. The Survey Chart of the roads is altogether erroneous, and a new survey is urgently required, with careful soundings, and delineation of the various small channels. A Harbour light would also be very desirable, as it is very difficult to find the Bar at Cocanada after sundown.

shut out. There can be no doubt that if the river were once made accessible, a patent slip would be soon erected, and efficient arrangements made for the repair of ships of every size. Adjoining Neelapilly, but separated from it by the little river, is the French Settlement of Yanam. Though of very small extent comprising only two or three square miles, it has a "Chef de Service" and establishment of Government Officers, subordinate of course to Pondicherry. The town has a handsome frontage on the Godavery which at this spot forms a noble sheet of water. Rumours have been for some time in circulation, that negotiations are in progress for the cession of Yanam to the British, and for the transfer to the French Government in lieu thereof, of a similar extent of land in the vicinity of Pondicherry. The exchange is desirable on all accounts.

Samulcottah

Is a large town about 8 miles N. W. of Cocanada, and is the Head Quarters of a Native Infantry Regiment. The whole strength of a corps, however, is never present at once, as detachments are furnished from it, permanently to Rajahmundry and Cocanada, and frequently also to Ellore, Condapilly, and Rajapore, the three latter outposts in the Masulipatam district. The cantonment, which though small, is neat and compact, is situated on the site of an ancient fort, small portions of the rampart of which are still standing. The public buildings consist of barracks, hospital, magazine, store-rooms and quarters for serjeants, all built in a substantial manner. There is also a Racket court, and a good Mess house. The officers' bungalows which are scattered about the cantonment, are chiefly thatched buildings of no size or value. The soil is red gravel, and advantage has been taken of this circumstance to form good roads in and about the cantonment. The crying want for years has been a road between Samulcottah and the seaport of Cocanada. At present there is literally none, and though its absence during the dry weather is of no great consequence, yet in the monsoon, it is frequently productive of the greatest inconvenience; the country between the two towns is low, and almost entirely under wet cultivation, and it is moreover intersected by several branches of the Yellairoo, a stream which after heavy rain comes down in torrents, and often interrupts the communication for days together.

MASULIPATAM.

Situation. A district and collectorate lying between Lat. $15^{\circ} 45'$ and $17^{\circ} 15'$ and Long. $79^{\circ} 50'$ and 83° . It is 113 miles in length by 100 in breadth, being bounded on the north-east by the river Godavery, on the south-east by the Bay of Bengal, on the north-west by the Nizam's territories, and on the south-west by the river Kistnah.

MASULIPATAM, FUSLY 1259—Area = 5,000 Square Miles.

Talooks.	Cushah or principal Station.	Number of Villages.	Population	Extent of Land cultivated.			Land Revenue.	Number of Puttals.	Extra sources of Revenue for Fusly 1260.
				Wet and Garden.	Dry.	Total.			
1	2	3	4	5	6	7	8	9	10
1 Masulipatam.	Masulipatam (Bunder)	22	53,847	2	189	191	Rupees. 10,615	703	Salt 2,80,171
2 Padanah.	Padanah.	41	11,893	137	167	304	13,758	1,131	Sayer 44,950
3 Divy.	Coondoor.	6	20,456	3	167	170	8,728	308	Abkary .. 44,955
4 Bezwarah.	Bezwarah.	83	24,318	49	1,858	1,907	75,519	2,245	Petty Licenses 4,307
5 Nundegamah.	Nundegamah.	98	24,230	11	3,383	3,394	75,034	2,291	Moturpha .. 28,926
6 Juggiapettah.	Juggiapettah.	52	15,850	37	1,176	1,213	33,603	722	Sea Customs . 4,242
7 Tirvore.	Tirvore.	79	14,137	46	594	640	16,592	1,212	Stamps ... 13,089
8 Ellore.	Ellore.	21	27,097	489	292	781	47,317	797	Total ... 4,20,640
9 Kykaloor.	Kykaloor.	98	13,456	665	180	845	40,964	944	POPULATION
10 Goodevadah.	Goodevadah.	135	31,038	242	1,169	1,411	70,760	2,856	Hindoo 4,97,796
		635	2,36,316	1,681	9,185	10,866	3,92,890	13,209	Mahomedans and others not
			2,84,550				5,38,943		Hindoo 23,070
Permanently settled estates.	Total.		5,20,866				9,31,833		Hindoo 5,20,866

N. B.—The "Cutty" is about $15\frac{1}{2}$ acres.

Situation and aspect. The vast plain of Masulipatam is nearly upon a level with the sea, but it sinks near the middle, and this fall constitutes a basin which forms the great Colair lake, supplied by the overflowings of the Kistnah and Godavery. The whole country 45 miles west of the sea is a plain. The nearest hills to Masulipatam are at Beizwarrah, and at Condapilly 9 miles west of Beizwarrah. The highest is not above 1,700 feet. They consist generally of a hard small grained dark granite.

Streams. A great number of small mountain streams intersect the district in different directions. Some fall into the Godavery and the Kistnah, and others into the Colair lake. There is a stream from the Colair lake which forms the Oopoolair (a common name for every salt stream in Southern India) which falls into the sea at Samuldivi. It is salt for several miles inland, and deep enough for the passage of boats between the sea and the lake. The Mooniyair, a considerable stream, falls into the Kistnah about 28 miles above Beizwarrah; another, the Boodemair takes its rise a little to the north-east of Mylaverum, and after traversing the country among the hills, finds its way round the north-east end of the Beizwarrah range, and ultimately runs into the Colair lake. The head of the Tummelair is also among these hills, but higher than the source of the Boodemair, and taking a central direction passes close to Ellore, and, like the latter, runs into the lake. The only other stream worth mentioning is the Poolair, an irrigating channel, opened in 1837, and of great service. It is supplied for a few months of the year, by the overflowing of the Kistnah, a few miles below Beizwarrah.

The Colair, the only lake in the district, is situated between Ellore and Masulipatam, but much nearer to the former than the latter town, and during the rains, covers upwards of 100 square miles. The lake has no permanent outlet excepting that which connects it with the Madapollam river, a short distance from the sea.

Tanks are not so numerous in this as in some other districts. In the dry season of the year the people's chief dependence for water is on large brick-built wells, some of which are sunk to a great depth. The water is in general sweet and good.

Roads. The land communication in this district is indifferent. Excepting a road through Beizwarrah to Hyderabad, constructed some years ago by the corps of Sappers, but now fallen into disrepair, there is nothing in the district that deserves the

name. There are four tracks leading in different directions from Masulipatam, to join the great northern line. One runs in a southerly direction along the coast to Ongole, another to Guntoor, the third to Ellore, passing by the Colair lake, and the fourth to Samulcottah by the coast. They are mere foot-ways across swamps and fields.

Soil and Natural Productions. The soil of the district is mostly alluvial, and is very productive excepting within a short distance of the sea when it becomes sandy and light. About $1\frac{1}{2}$ million acres are under cultivation, the residue is left waste and grazed on by cattle. It can hardly be called pasture land. Rice is not grown so extensively as the soil would admit because a sufficient and constant supply of water is not always available. The new Kistna anicut will, it is expected, remedy this. At present rice is frequently imported from Arracan. The lower parts of the district are open and free from jungle. Topes of mango, tamarind, and palmyra trees are numerous, together with many other varieties of tropical trees, valuable either for their medicinal properties, or their uses as timber.

The Babool, or *Acacia Arabica*, grows plentifully on the banks of the Kistnah, and is of value from the quantity of gum it yields, and the employment it gives to a number of persons. The gum is esteemed by the mootchies and cloth painters. The agricultural classes feed their cattle on the seeds during the dry season. Dry grains are produced in abundance in the district, also tobacco, cotton, oil seeds and chayroot. This last is used for dyeing scarlet.

About 6,30,000 maunds of Salt are manufactured annually for the Company's monopoly, at the two places Innoogoodroo and Pondraka. About 4,10,000 maunds of the whole is what is called "Swamp Salt" being gathered from the low flats after they have been overflowed by the high tides.

Granite, sienite, marble of various kinds, limestone and iron are found in the interior of the district; and diamond mines were formerly worked, but have ceased to yield a profit. The villages in which they are situated were specially reserved in the Treaty, by the Nizam, and still form part of the Hyderabad territory. The diamonds are found here as elsewhere in sandstone conglomerate.

Climate. The climate of Masulipatam is rather above the average tropical character. From March until June, the weather is very hot, the thermometer in the day gradually rising from 70° early in the first month to 100° and upwards, at the end of May.

The excessive heat in May is somewhat tempered by the sea breezes which occasionally set in early in the afternoon, and blow until night-fall. In June the rains commence, when the temperature in the day falls to 86°. The rains continue until the end of October, the annual average fall being about 35 inches. In November the cool season commences, when the mercury in the thermometer gradually falls to 62° at sunrise, retaining that point with little variation until February. At noon, in November, December and January, the range is from 76° to 80°.

Town and Villa-
ges.

The only towns in the district are Masulipatam, Jugiapottah and Ellore, though there are some places as Beizwarrah and Condapilly which almost deserve the name.

The whole country is however densely filled with villages, some containing 1,000 or 2,000 people, others not more than 100 or 200. In all the large villages there is a pagoda dedicated to Vishnu or Siva, frequently over a tank, and in every collection of houses, from a hamlet upwards, there is a village goddess. Sometimes she is a mere rude uncarved stone stuck under a tree, sometimes she has a tiny hut of palmyra leaves, sometimes she is a roughly carved image of stone in a small pukka building. She is worshipped by all the lower castes, Sudras included, and from these are her priests taken: the upper castes reject her worship. The Pariahs worship no other deity, not being allowed to approach the pagodas. Near and attached to every village of any size is a little hamlet of huts, called Mahapalim, or "Pariah hamlet:" in this live the Pariahs belonging to the village; they form the farm labourers, and receive as wages one seer (3-4ths a Madras measure) of cholam per day, a blanket and pair of sandals annually, and some other trifling presents.

Sacred places.

The river Kistnah is accounted very sacred, and consequently there are several famous spots on its banks, where, at particular seasons, festivals are held, and great bathings for the removal of sin take place. The chief of these are at Gullapilly (where at high tide the salt water of the sea meets the fresh water of the river), at Beizwarrah,—and about half way between them, at Shriacalam; the two first are in honour of Siva, and the festival takes place about February; the last is in honour of Vishnu, and the festival is six weeks later.

Language.

The language of the whole district is Teloo goo; Hindustanee is spoken by the Mahomedans, and is known



more or less perfectly by a few others: Tamil is only spoken by the few strangers, servants or others who have emigrated from the south. The people of course are the Teloogoo people: divided into the usual endless list of castes from Brahmin to Pariah. The religion is much the same as prevails in the rest of the Peninsula: the worshippers of Shiva somewhat outnumber those of Vishnu; the latter are for the most part of the sect of Ramānujulu, a reformer who lived in the south. Among the former are to be found the Jangams, a sect which originated in Mysore about 700 years ago, and at first was bitterly opposed to the whole Brahminical system, but this bitterness has passed away. The Mahomedans are for the most part gross idolaters, and saint worshippers; utterly ignorant of the Koran.

Masulipatam.

285 miles from Madras, lies in Lat. $16^{\circ} 9' N$, Long. $81^{\circ} 13' E$. It is a commercial port of some consequence, much frequented by the country traders, and in the cold season by Native vessels from the north. The harbour, however, is only an open roadstead in a slight bay capable of accommodating vessels of 200 tons, and even these are obliged to anchor three or four miles from the shore in three fathoms water. There is no surf on the coast, and only a trifling line of breakers on the bar, on which there are four to six feet water at high tides. The tide rises three or three and a half feet. Large vessels anchor in 5 or 6 fathoms several miles from the shore, the flag staff bearing west.

Masulipatam is the earliest British settlement on the continent of India. In 1621 the factory at Bantam sent to the Coromandel Coast to open a trade at Pulicat, but the Dutch effectually opposed the attempt. In the following year, however, they succeeded in establishing a trade at Masulipatam and secured a considerable quantity of coast goods. In February 1626, the English erected a small factory at Armagon which they slightly fortified as a subordinate station to Masulipatam and as a retreat, in case of need; and hither they retired, when in 1628 the oppressions of the Native Governor drove them from Masulipatam. Four years afterwards Masulipatam was re-established as a factory through a Firmaun obtained by the Mahomedan king of Golcondah. In 1689, owing to misunder-

standings between the English and the Great Mogul, the latter seized the factories at Masulipatam and Vizagapatam.

Masulipatam is the principal place of residence of the Civilians employed in the Collectorate, and the grand depôt of Military and Commissariat stores for Secunderabad, Jaulnah, and Kamptee. The site of the town, particularly at the S. W. end, is low, and subject to lodgments of water. The principal streets are wide, airy, and tolerably straight, but the houses are singularly built, and are of all dimensions. Some of the streets run the entire length of the town. There is only one large square within the town called Robertson's Pettah, in commemoration of a civil officer who conferred many advantages upon the place. The Mogul merchants reside in the western quarter in garden houses surrounded by high walls.

In the Native town which extends about 3 miles, the houses of persons of the better description are built of brick or mud of a convenient height with good sized doors and small windows, they are roofed with bamboos and palmyra leaves or tiled. The huts of the poor are generally constructed in a conical form of bamboo and palmyra leaves, resting on the ground, or raised on low mud walls with an entrance on one side; better deserving the appellation of a hole, than a door. The dwellings of the wealthy are well furnished.

About two miles from the sea is a low sandy ridge, upon which stands the military cantonment, and a pettah or Native town, and about a mile to the south-east of this, is the fort standing in the middle of a swamp. The fort is connected with the Native town by means of a causeway. In form, the fort is an oblong square, surrounded by a shallow ditch. Within the walls are the arsenal, powder magazine, garrison hospital, barracks for one European regiment, a Protestant Church, and a Roman Catholic Chapel, and the residences of the commanding officer, garrison surgeon, fort adjutant, commissary of ordnance, and subordinate staff, all of whom have latterly betaken themselves to the cantonment, and the buildings in the fort are falling into decay.

At spring tides the swamp north-east of the fort is overflowed; but in the hot season it is hard and dry, and constitutes a pleasant ride. When under water the swamp extends beyond the limits of the Native town. During the dry season some parts of the swamp produce a short stunted grass. Water is procurable in any quantity from Caramede, a fine top, ~~about~~ north-east of the fort, and a covered channel run-

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ning along the side of the causeway connecting the fort with the pettah, was used to supply water to the garrison, before the troops were removed outside.

The cantonment is about four miles and a half in length, by one in breadth. It is irregularly laid out, but the roads run parallel with the beach, and join that from the fort as it passes westward through the pettah. These are again crossed at two or three places by others which divide the cantonment into several irregular squares. The public buildings within the cantonment, are the provincial and zillah courts, the Collector's cutcherry, the jail, the barracks for a Native regiment, a Chapel, and lines for a company of artillery

The site of the lines, hospital, &c. are dry, but during the rains and for some time afterwards there are many pools near them which cannot be drained, but the water is gradually absorbed by the light sandy soil. There are several wells in the cantonment, but the water is generally brackish, chiefly from containing muriate of soda.

In the heart of the pettah of Masulipatam,* among the European houses, and close to the jail, is a patch of ground, about 300 yards square which belongs to the French, and is called *France Pettah*. It is an inveterate nuisance, as containing toddy shops and smugglers, beyond the control of the Military authorities. There is a Native dignified with the title of French Vakeel, but as his duties amount to nothing, so he receives nothing but the title, and perquisites from the shopkeepers. The spot of ground is under the authority of the French Government, who are most reluctant to give it up at any price.

The trade of Masulipatam extends very little beyond Calcutta to the northward, and Bussorah in the Persian Gulf to the westward. It consists principally of piece goods, snuffs, and chintzes. Fifty years ago the trade with the Persian Gulf was 50 lacs, but Manchester has superseded Masulipatam: and the trade is now half a lac.

The Church in the fort is large and commodious. That in the pettah is smaller, but very well built. They were both consecrated by Bishop Spencer of Madras, in his first visit in January 1842. In the compound of St. Mary's Church there is a substantial building for a school, and a convenient bungalow for a schoolmaster; which, together with funds for keeping them in repair, were left by General Pater, the founder of the Church: there is, however, no school for Europeans or East Indians at present held either there or elsewhere in the pettah.

Masulipatam is a station to which a Chaplain is usually appointed.

This charge consists of two congregations at Masulipatam, viz. in the fort, and the pettah; the Native regiment at Ellore, and Samulecottah, the civil stations of Guntoor, Rajahmundry, and Cocanada, with several smaller out-stations: the ecclesiastical district is more than 200 miles in length.

In 1841 the Church Missionary Society commenced the first Church of England Mission in the whole Telugu country.

It now contains three ordained missionaries, one European catechist, and two assistant schoolmasters. The Mission maintains an English school for giving a superior education in the language to Natives; the number of scholars is about 50, from the most respectable families in the town and neighbourhood. The Christian congregation has always been very small, not above 20 in all. The missionaries preach in the villages in the district, as well as in the town.

There are two small Roman Catholic Chapels and congregations: one in the fort, the other in the pettah. The first consists of from 12 to 20 families, the other is rather smaller, they are chiefly Tamil people, from the south, and are in the last stage of ignorance. There is a resident Priest from Goa, his labours are confined to his own flock, and do not extend to the heathen.

There is a school in the fort for the children of the non-commissioned officers, and other residents. It was established by themselves in the year 1843, and is supported by subscriptions from themselves and others in the station and by small payments for the children by their parents. Elementary instruction is given in it.

Condapilly.

A town in the district of Masulipatam in Lat. $16^{\circ} 37' N.$, and Long. $80^{\circ} 33' E.$, at the base of a range of hills, and about 2 miles to the N. of the great road between Hyderabad and Masulipatam. It was called Moostafanagar by the Mohamedans, and was the Capital of the Kondapilly or Moostafanagar Circar. Of late years it has fallen into a state of decay. A large portion of the space within the walls is now devoted to cultivation, and the dwellings occupy a small extent only near the foot of the hill, which is crowned with the ruins of a picturesque Fort, exhibiting considerable remains of architectural magnificence. It has a Post Office, and is the station of a small detachment of regular troops under a European officer.

Ellore

Is 315 miles from Madras, and is a populous town, situated in Lat. $16^{\circ} 43' N.$, Long. $81^{\circ} 15' E.$, and occasionally a station for a Native corps. The country around is open and flat for a considerable extent. It is called Oopoo Ellore, to distinguish it from Vellore which is called Raee Ellore.

The Ellore country was one of the five original Northern Circars, but now it is comprehended in the modern district and Collectorate of Masulipatam. The Ellore and Condapilly Circars occupied the whole space between the Kistna and Godavery rivers, and included the Masulipatam pergunnah towards the sea, the inland province of Cumnumait, in the Nizam's territories towards the west, and the lake or basin of Colar. The superficial contents of what was the Ellore Circar may be estimated at 2,700 square miles, exclusive of the high mountainous tract on the west, the limits of which are quite undefined.

The soil is principally black cotton ground ; in the cantonment, however, it consists of sand.

There is much foliage around, from the streets and roads being usually flanked with trees, and there is an extensive toddy tope in the vicinity ; in fact the whole of this part of the country is full of these topes ; besides which, there are several extensive betel gardens, which though swampy, and obstructing free ventilation, are not considered prejudicial to the health of the inhabitants.

The climate of Ellore does not differ very materially from that of Masulipatam, though from being about 40 miles inland, it does not enjoy the benefit of the refreshing sea breeze : and the heats in particular during the months of April and May, are extremely close and oppressive. The land wind likewise during May, blows with great violence, and the thermometer has been known to rise to 110° in the houses, and to upwards of 120° in officers' tents.

Ellore is one of the largest towns in the district. Some part of the principal bazaar is built with considerable regularity, and the shops, with wooden fronts, resemble those in the west of India ; none however exceed one story.

The Tummelair, a small and shallow river, the bed of which is dry throughout the greater part of the year, divides the town into two portions, or rather the portion on the left bank is a distinct village Timigalmoody, and belongs to Sinhadry Appa Row. On the right

bank of the river, are the remains of an old fort, distant about one mile and a half north-east from the barracks, and the cantonment hospital. On the opposite side are the officers' houses, at the distance of a mile west of the barracks. No inconvenience has arisen from the river intervening, as it is at all times fordable. The cantonment is now abandoned as a Military station.

The sepoy's lines are well situated, dry and commodious, and the houses in the town are generally well constructed, and of a better description than those usually seen in Indian bazars.

Juggiapettah.

The 3d town in Masulipatam, was built by the late Zemindar Vasa Reddy, near the Nizam's Frontier, [close to the village marked Batacole in the map.] It is a place of great trade, with many rich Marwari and Telugu merchants. The trade is chiefly in opium, tobacco, cotton, silk and cotton cloths.

Mullavelly.

A village near Ellore. It belongs to the Nizam who, in ceding the Circars, specially reserved the villages in which diamonds are found.

Diamonds are found in its vicinity. Some account of the geology of the place is extant, from which the following extract may be offered. "Near the village the plain is strewn with blocks and fragments of a very hard conglomerate sandstone, some pieces of which are of a purplish colour. There are also some large blocks of garnetic gneiss, in a state of decomposition, but the red sandstone abounds most, although rolled pieces of quartz, with a covering of a ferruginous clay, or carbonate of iron, together with the conglomerate sandstone, are scattered over the plain. The hollow flat, where the diamond pits are excavated, is surrounded by a bank, or rising of the soil in a circular manner. It has the appearance of having been once a lake. The banks are formed of the red ferruginous sandy soil, prevailing all round the place. Through this plain no river or rivulet flows, and the pools, in its lower part, dry up about the month of March, when the excavation may commence, and not before.

A few hills in the vicinity lie to the northward, not above two or three hundred feet above the plain, and are covered with underwood, interspersed with large trees. Some miles beyond these hillocks runs another range, loftier than the nearer ones, having however, the same direction.

The diamond pits are in general excavated at the north end of the bank that surrounds the hollow, to a depth of not more than twelve feet. The strata penetrated during the search for diamonds, are a grey, clayey, vegetable mould, about a foot or two thick; below this an alluvium, composed of the following pebbles (not including the diamonds) which have evidently undergone attrition, their angles having been worn off; sandstone, quartz, siliceous iron hornstone, carbonate of iron, felspar, conglomerate sandstone, and a prodigious quantity of kunkur, or concretionary limestone. Besides the numerous pieces of this concretionary rock, scattered on the surface of the soil, and also intermixed in large quantities in the diamond alluvium, it forms regular strata or veins in a horizontal position, both in the vegetable earth, and in the diamond alluvium, precisely like flints in chalk. Many of the pebbles of quartz, and hornstone, are not only varnished as it were, with a ferruginous *enduit*, but it penetrates into their substance.

The kunkur contains not a trace of quartz, or any other mineral; and that in strata, in the vegetable soil, and in the diamond alluvium, is more friable than that exposed on the surface of the ground. It is in this alluvial detritus that the diamonds are found. The diamond is never found imbedded, or in any way attached to any of the pebbles, with which they are invariably associated in this locality. They are always found loose, mixed with other little stones, and never attached to kunkur. The pebbles most constantly associated with it, and forming infallible indications of the existence of diamond, are iron ore and hornstone.

Notwithstanding the prodigious quantity of carbonate of lime in this locality, the water does not contain any traces of it; and the inhabitants use even that collected in the pits. The detritus, forming the diamond stratum, must proceed from the hills north, the only ones near this place; being probably the continuation of the sandstone range, which extends easterly from Banganapilly, Condapilly, and Mullavelly, in all of which localities the matrix of the diamond lies in conglomerate sandstone."

GUNT00R.

Situation and
Boundary.

The Guntoor Collectorate is bounded on the South-east by the sea, on the N. E. and North by the Kistna river, which separates it from the district of Masulipatam, on the N. W. by the same river, which is the boundary between the Palnau Division and the Nizam's Dominions; on the S. W. by the Cuddapah district, and on the south by Nellore. The hilly tract of the Palnau comprising about 1,000 square miles, lies in the N. W. corner being bounded on two sides by the Kistna, and separated from Guntoor Proper, and the district of Cuddapah, by a chain of Hills, and consists in the interior of rocky undulations interspersed with comparatively fertile valleys.

GUNT00R, Fusly 1,259—Area = 4,960 Square Miles.

Talook.	Cushah or principal station.	Number of Villages.		Population.		Extent of Land cultivated.			Land Revenue		Number of Puttals		Extra sources of Revenue for Fusly 1260.
		2	3	4	5	Total.		7	8	9	10		
						Wet & Garden	Dry						
					Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.		
Dachipully.....	Bachipully	66	34,059	1,295	41,140	42,435	92,555	1,977	Salt.....	4,12,919			
Timmercootah.....	Timmercootah..	89	46,915	1,244	63,674	66,918	1,16,521	2,504	Saver.....	3,746			
Prattapad.....	Prattapad.....	49	34,353	414	63,977	64,391	1,62,283	2,063	Petty Licenses..	22,538			
Martoor.....	Martoor.....	69	45,678	893	57,044	57,937	1,15,692	2,221	Moturpha.....	11,102			
Mungalaherry.....	Mungalaherry...	76	33,806	1,049	45,425	45,465	1,28,257	1,713	Sea Customs..	1,924			
Bapatlah.....	Bapatlah.....	23	56,643	3,143	22,527	28,669	1,14,777	4,660	Stamps.....	8,475			
Ponnoor.....	Ponnoor.....	69	55,915	2,650	52,039	55,010	1,18,523	2,572	Total.....	5,07,510			
Repully.....	Repully.....	78	52,084	3,027	40,881	43,968	93,575	2,995	POPULATION.				
Thenally.....	Thenally.....	58	41,474	1,802	64,121	70,924	1,57,634	1,965					
Guntoor.....	Guntoor.....	64	43,843	817	50,175	50,995	57,021	561					
Coarapad.....	Coarapad.....	143	39,953	569	94,734	63,323	1,28,557	2,562					
Condaaved.....	Condaaved.....	48	20,770	256	31,244	34,330	7,027	702					
Nursarowpet.....	Nursarowpet.....	99	37,447	1,258	43,218	44,476	62,881	1,250					
Innacundah.....	Innacundah.....	159	40,263	2,322	27,651	40,173	67,124	1,028					
	Marole jarer.....		113										
Total.....		1,629	5,70,083	24,202	7,32,852	7,32,154	15,52,573	2,662					

The space within the limits of Guntoor Proper with the exception of part of the Innacondah Talook in the west which partakes of the hilly nature of the Palnaud, is an extensive plain—from the centre of which rise the Condaveed hills, a granite range situate about 12 miles west of Guntoor, and extending about 12 miles from N. E. to S. W., and rising in the highest point to 1,725 feet above the sea. Beyond their termination a few detached hills appear to indicate a continuance of the ridge in the same direction southward towards the Addunky hills in Nellore, and from the N. E. extremity of the range some detached rocks appear here and there, indicating its connection with the series extending from Mungalagherry to the Kistna opposite Beizwarrah. In 35 miles W. N. W. of Guntoor is the conspicuous hill of Bellumconda. A few miles to the west of Condaveed is the isolated hill of Yellamunda 1,615 feet above the sea.

The hills in Innacondah rise in the central point called Soodiconda to an elevation of 1,920 feet above the sea.

On the hills of Condaveed and Bellumconda are the remains of important fortresses. Condaveed was formerly the chief seat of authority and the capital of that Circar, (vide History of N. Circars.) The remains of the fortifications and granaries at Condaveed and the debris of dwelling houses, show that the fort was one of large extent and great strength, and that a considerable population existed within it.

The fort on this hill is elevated about 1,000 to 1,100 feet above the sea, and affords a grateful relief from the burning heat of the plains in the hot season. There is during the hot winds a difference of as much as 10° or 12° Fah. in the temperature, and at other times of about 5° or 6°. Its vicinity to Guntoor, the facility of access, the conveniences it affords in good water, &c., the beauty of the scenery on a small scale, and its ever verdant appearance recommend it to notice.

The former inhabitants of this part of the country would appear from the following circumstance, to have been connected with the hill tribes of the Khonds. It appears from the *Calcutta Review*, Vol. 5, note at page 58, that “the chief Khond deity was worshipped in places as the tutelary god under the name of *Khondini*.” The ancient name of the town at the foot of Condaveed to which much pristine sanctity is attached is Khondinipuram, which certainly favors the assumption of the identity of its inhabitants at least in a religious point of view with the Khonds.

Traditions exist of the sea coast of the Guntoor district having for-

merly been several miles inland of the present shore, and this opinion is supported by the marks of an old beach along the eastern road to Masulipatam from Chinna Ganjam in the south to Sandole or still further towards the Kistna. The black soil here gives place to a belt of sand from 5 to 10 miles in breadth, commencing with the drifts and elevated ridges generally found above high water mark and thence sloping gradually to the present coast. Numerous shells are found in this locality. This general tradition is further supported by a "Dunda Cavile" describing the sea as having formerly extended nearly to the present town of Chinna Ganjam, and stating that as far back as about A. D. 1224 some "Frangaloo" or European foreigners carried on a considerable traffic with Masulipatam from a town on the coast called Frangaloo-putnam, the ruins of which are still to be seen in the existing "Frangaloo-dinny." So remarkable are the indications above described, that for nearly 30 miles the drainage of the country finds no vent towards the sea and lodges against this ridge forming extensive swamps.

The principal *towns* are Guntoor, Innacondah, Mungulagherry, and Nizampatam, in Guntoor; and Timereottah and Datchapilly in the Palnaud district.

There are four seaports, Nizampatam, Cottapallem, Epoorpallem, and Motoopilly.

The principal river is the Kistna which winds round the western side of the *Palnaud* division and then bounding the northern and eastern sides of the district, takes a direction south to the sea. About 23 miles from the sea, it has two branches; the main branch empties itself into the sea near Humsaldecovy in the Masulipatam district: and the minor branch at Gungadipallam, belonging to Guntoor. The bed of the Kistna is generally low, which renders it difficult to form channels of supply from it.

The Toongabûdra channel was formed in 1842 and the following year, by the excavation of a cut to connect with the river an old water-course, which conveyed the drainage of the country to the sea and by ombanking the latter and leading off from it branch channels to conduct the Kistna water to the Sandole, Kummanoor, Appocutla, Baupetla and other tanks.

Further down the river the Vellatore channel is led off to supply the important tank of Alloor and certain irrigable lands in the way to that reservoir. In the Repully talook several smaller channels sup-

ply the tanks in that locality. Considerable benefit has been derived from these tanks.

An Annicut on a very large scale is now in course of construction across the Kistna at Beizwarrah, from which great advantages both to the people and the revenue are looked for.

This work, now more than half completed, is built across the river Kistna, between Beizwarrah in the Masulipatam district, and Seetana-grum in Gunttoor, about 46 miles from Masulipatam, and is intended to supply water to about 1,000,000 acres of land on both sides of the river in the districts of Gunttoor and Masulipatam.

The site of the work is exactly where the Northern road crosses the river, and is remarkable for two lofty hills, one on each bank, which reduce the breadth of the river from 2,000 yards to 1,350, thereby increasing the velocity, and requiring proportionate strength in the annicut.

The southern or south-western end of the annicut abuts on the Seetana-grum hill, the northern on the village of Beizwarrah which lies at the eastern foot of the hill on that bank. At each end of the annicut there is a large sluice of vents, intended to keep the bed above the annicut clear of deposits in front of each of the head sluices of the great channels. These head sluices are at right angles to the annicut, and have each 16 vents. Adjoining each head sluice there is a lock to pass boats between the river and the channel with a chamber of 50 yards in length and 16 feet in width.

The body of the annicut consists of a wall intended to be 19 feet high above the deep bed, below which it rests upon wells 7 to 8 feet in depth, its thickness at bottom is 10 and at top will be 4 feet, it has been raised to 15 feet this year. In rear of this wall, that is, down-stream, is a backing and apron of loose stone, which will eventually extend to more than 90 yards from the wall.

The first part will be covered with rubble masonry and cut-stone, so as to form with the top of the wall a flat breadth of 20 feet, and the cut-stone covering will be continued by an inverted curve to a breadth of 50 feet, from which the loose-stone will be placed in a uniform slope gradually diminishing the overfall to the sandy bed.

The head and annicut sluices, and the locks were built in 1853 and large excavations made for the heads of the channels. In 1854 the annicut had been raised to a height sufficient, when the freshes came down, to afford a good and constant supply to the channels.

The stone of which the works are almost entirely built is obtained from quarries in the two hills, and is brought to the works by railways.

The earthworks as yet undertaken are the deepening and widening of the Boodemair and Poolairoo, on the Masulipatam channels and of the Toongabúdra, on the Guntoor side; these being the old channels which were filled during high freshes.

The new channels lately commenced are a branch from the Poolairoo to tide-water near Masulipatam, and a channel direct from the annicut to Nizampatam, a port in Guntoor. These will be made navigable by locks.

KISTNA ANNICUT.

Length of the annicut.....	3,750 feet.
2 under-slucices in the eastern and western extremities of the annicut.....	132 feet each between the abutments.
2 head ditto ditto ditto.....	132 feet each do do.
2 locks in the eastern and western channels.....	150 feet each between the gates.
Depth of the wells under the annicut.....	7 and 8 feet.
Height of the annicut including foundation..	19 feet.
Breadth of the crown of the annicut.....	20 feet.
Ditto curved slope.....	50 feet.
Ditto first part of the loose stone apron.....	50 feet.
Ditto second do do do..	180 feet.
Crown of the annicut above the summer level.	14 feet.
Head sluice floors above ditto	9½ feet.
Under ditto ditto ditto (Seetanagram side.)	6 feet.
Ditto ditto ditto ditto (Beizwarrah side.).....	6½ feet.
Summer level above the deep bed.....	5 feet.
Deep bed above the high water mark at Masulipatam.....	23 feet.

The Kistna is all but dry in March, April and May, it then rises to a height of 22 feet by the Seetanagram water-meter, when the water enters the irrigating channels. The rise continues till August. The highest fresh is about the end of July. When the rise is above 32 feet the banks are overflowed. In 1851, 1852 and 1853 the river rose to 35 feet and caused some damage. Sometimes a second high

fresh occurs in the end of August. Its width at Beizwarrah and Seetanagrum, where it emerges from the hills, is 1,160 yards, and its velocity 5 miles an hour; so that the quantity of water that it discharges in *one hour*, is more than is discharged by the Clyde, at Glasgow in *one year*. The river's surface at flood falls about $11\frac{1}{2}$ inches per mile, between Seetanagrum, and the sea, a distance of 57 miles. In the dry season bars of sand prevent the entrance of vessels, but in the freshes, boats, drawing 8 and 9 feet water pass up above Chintapilly. The depth of the mouth may *then* be considered about 12 feet; giving a fall of $9\frac{1}{2}$ inches per mile, for the bed of the river: the country through which it flows having a fall of about $18\frac{1}{2}$ inches per mile, in a direct line from Seetanagrum to the sea, at Nizampatam. There are several small streams, as the Nullamada, the Nagalair, and Pillair; the principal of these is the Nullamada, which takes its rise near Chajirlah in Innacondah, traverses a distance of about 100 miles and furnishes the tanks of Baupotla and Chercoor. In fine seasons between 4,000 and 5,000 candies of paddy may be raised from the water furnished by this stream.

The Nagalair was dammed up in former times by closing an opening in a range of hills near Carempoody in the Palnaud, and a lake of large extent was formed; but this ancient work is in a state of decay, and the Nagalair has for some time past taken its course, without obstruction, through the opening at Carempoody; it affords irrigation to a small quantity of land. The Nagalair and Pillair traverse the Palnaud, in a direction from south to north, and fall into the Kistna. The Goondlakama also passes through the Guntoor district to the south of Innacondah, in a course of about 25 miles; its water is not arrested for the purpose of irrigation, the whole of it with such increase as it may acquire from drainage in its passage through the Guntoor district, passes down towards Addunkey in the Nellore district. Besides the foregoing there are several small streams, formed by drainage from the hills and higher levels inconsiderable in themselves, and locally important, only so far as they afford a supply of water to the tank of any particular village.

Lakes, &c. There are several Back-waters along the line of coast, which are effected by the tides and the rains during the monsoon. There are no lakes, though as mentioned above, one is said to have existed formerly near Carempoody.

Tanks. Tanks are not numerous, nor are there any of much extent, with the exception of the tank at Baupetla, which is about eight miles in circumference. This depends on the supply from the nullah called Nullamada, and the Toongabâdra channel. The tank is very shallow, and the supply uncertain, as the Nullamada depends on the falling rains. The next largest are those of Alloor, Kumanoor, Oopatoor, and Chercoor, the two first of which are supplied by channels. The contrivances for raising water are the picota and the large bucket raised by bullocks. To save a crop, the *gooda* or basket is used which is worked by two persons.

Climate. This district is within the influence of both the S. W. and N. E. monsoons. Rain falls with the setting in of the S. W. monsoon in June, and occasional moderate falls are experienced till the month of August. In August, September, and October a greater quantity of rain falls, and these are considered the rainy months. In November occasional showers are experienced. The heat at Guntoor is very great from the middle of April to the middle of June.

The coast as well as the Condaveed Hills holds out advantages during the hot months. Several Bungalows have been built at Dindy near Nizampatam in a bend in the line of coast, where the south wind blows over the sea.

Soil, &c. The earth of the Guntoor Circar, in many parts is much impregnated with saltpetre. The soil is black or alluvial and capable of producing every sort of grain, if supplied with adequate moisture. Unfortunately, however, after the periodical rains, which terminate in November, it often happens that not a drop of rain falls until next July. During the months of April, May and June, animals and vegetables suffer greatly for want of moisture. After the descent of the first showers a very different scene is presented, for the finest verdure immediately springs up, and all nature seems re-animated. The natural strength of the soil is such, that in good years cholam or (*great millet*) grows to the height of six and seven feet, with ears a span in length. The Natives, who feed principally on this grain, are stout and healthy, and during the dry months, its straw affords the chief nourishment for sheep and cattle.

Cotton is to some extent, particularly in the Palnaud, cultivated, and is often sown along with grain of different sorts. The outturn of the crop of 1851 was roughly estimated at nearly 18,000 candies of

uncleaned cotton, the land fitted for this cultivation is about 100,000 acres.

Beds of white and red limestone of a close texture and veined, also occur in the district; they are of great depth, and extend in some places many miles in length, giving a gently undulating appearance to the country; from the south bank of the Kistna, near Pondigul where the limestone is seen forming, as it were, a perpendicular wall on its banks, of nearly 40 feet in thickness, it runs in a south-east direction for upwards of 20 miles, being pierced occasionally by hills of basalt; on the opposite side of the river a striking contrast is observed, the formation being partly primary sandstone, but chiefly greenstone, hornblende, granite of a fine texture, and gneiss. There are diamond mines in this Circar, but it is a very long period since they have been productive or profitable; and extensive ruins of Buddhist temples have been discovered at Amaravaty on the bank of the Kistna.

Earthquakes have occurred several times in the western part of the Zillah, and a tradition exists amongst the Natives, that some of these hills were volcanos in former days. The high peak of Boggulaconda (charcoal or ember hill) near the high road to Hyderabad has somewhat the appearance as well as the appellation significant of an extinct volcano. No well defined crater appears however on any of these hills, nor is lava found in their vicinity.

The great northern road to Calcutta passes through
 Roads. Guntoor, and a branch from it to Hyderabad runs through the western part of the district. There is also an unmade road to Cumbum: where the roads lead through cotton ground they are heavy, and become almost impassable in the wet season; the bye roads are very indifferent, and can only be traversed by the Native bullock carts or by bullocks, the principal carriage for the internal traffic of most parts of the Presidency. The rivers in this part of the country are either altogether dried up, or easily fordable in the hot season, and in the monsoon they are crossed by means of boats, there being no bridges; the ferry boats on the Kistna above Amaravaty are of a round shape, made of basket work covered with leather, and are capable of conveying from 30 to 40 persons at one time.

Manufactures
 and Natural
 Productions. Guntoor is famous for its sealing wax, and the moochies who make it, understand also how to make very good red leather of sheep skin; it also manufactures a large quantity of cloths for export. At Cheralla, Ventapq-

lem and the towns in its vicinity, women's cloths, handkerchiefs, *loongees*, and *chittadies* are manufactured for the Madras market, and are also exported to Chittoor, Wallajabad, &c. From Mangalagerry, white and red cloths worn by Mahomedans as well as by Natives generally, are exported to Hyderabad, Jaulnah, &c.; betel, tobacco, chillies, onions, turmeric, matchney, Moecca Jonna, chay-root, Bajra, and roots are cultivated in garden land. On the land dependent on the falling rains, cholum, cotton, wheat, hemp, oil seeds, vurega, gram, cundooloo, and similar grains are grown. The season is distinguished by three periods, during the first which commences with the setting in of the S. W. monsoon, in May, Bajra and Moecca Jonna are sown; as the season advances the second period commences, during which cholum, the staple crop of the district is sown: the third period commences about the end of September, when the last crops of the year, viz., gram, oil seeds, vurega, &c., are put down. On the low lands in the eastern part of the district, *vellaradam*, a description of coarse red paddy is sown, which depends on the falling rains.

Manure is considered indispensable in garden lands, it is also used on the poorer soils where dry grain is produced. The refuse and accumulation in villages are used for this purpose as well as the dung of cattle generally; sheep dung is much prized. The custard-apple is procured in great abundance along the Condaveed hills. Fruit, as plantains and oranges, are not, with trifling exceptions, grown in the district. Wild chay, the root of which furnishes a red dye, is found near the coast, and chay of a superior quality is also cultivated there to a great extent.

The cattle of this district are in great repute, and bullocks are taken for sale to other districts. The breed resembles the Ongole, tall, and short-horned; it has been crossed in some parts with an inferior kind and attention is necessary to prevent deterioration. The price of a pair of large bullocks ranges from pagodas 20 to 40 (or £7 to 14). Buffaloes are used in ploughing wet lands.

Wild Animals. The royal tiger, the cheeta, wolves, bears, spotted deer, neilghy and antelope, are to be found in the western part of this district, and the wild hog abounds both in the western jungles and near the coast. Bustards are met with occasionally, and the ~~florida~~ also is found in parts of Gruntoor during the season.

Guntoor.

255 miles from Madras.

It is situated in Latitude 16° 12' north, and Longitude 80° 20' east; forty miles from the sea, and nineteen from the right bank of the Kistna. The country towards the sea is open and flat, the nearest high ground being a range of hills commencing about four miles to the north-west.

The soil in the vicinity is black, or red, and produces very luxuriant crops of Bengal gram or chenna, cholam and cotton.

The town is of considerable size, and has been much extended and improved of late years.

Trees abound, and the town possesses two reservoirs; the Courts of justice, and the bungalows of the Civilians, are situated on the north and west sides.

The jail is situated about $\frac{1}{2}$ mile from the town on an open, dry and slightly rising ground, occupying a space of 85 by 69 yards, and surrounded by a wall fourteen feet high.

It consists of several buildings in separate areas, divided from each other by walls eight feet high, for the various classes of prisoners as follows: for females, persons waiting for trial, prisoners sentenced to hard labour, (the most numerous class) prisoners waiting for bail, for condemned persons, and lastly for debtors.

The buildings are all of brick, and well ventilated; they are pent roofed and tiled, the floors being of clay, and raised one foot from the ground, the whole affording accommodation for 500 prisoners.

The out-houses, &c. are conveniently placed, and there is also an ample supply of good water within the walls.

Innacondah.

A town of some size in the district of Guntoor. The cusba station of the Talook of the same name, 50 miles W. S. W. from Guntoor on the road to Cumbum. Saltpetre is manufactured in some quantity, and conveyed for exportation to the port of Cottupatam, near Ongole: tobacco, ghee, cloths and chillies are exported to Hyderabad, by the Merchants of this place.

Visitations of earthquakes have been experienced in the vicinity.

Population 4,261.

Nizampatam.

A port on the Coromandel Coast, in the Guntoor district. A considerable trade is carried on here. There is a spacious backwater, and the mouth being always open, facilities are afforded for the ingress of small Native craft. Native vessels are likewise built at the port. Salt is manufactured in the vicinity. Population 2,254.

Mangalagerry.

A town in the Guntoor district, 13 miles north of Guntoor on the high northern road—a trade in white and red cloths is carried on with Hyderabad and other places—vide Guntoor.

Population 3,297.

Cheralla.

A town in the Guntoor district, 40 miles south of Guntoor, not far from the sea, and inhabited chiefly by weavers, who are employed in the manufacture of the coloured handkerchiefs and cloths, still exported in considerable quantities to Madras, and other parts of the country, as well as for the home market. This with some other villages lying within the limits of the Guntoor district were transferred to it from Nellore in 1846.

Population 3,286.

Motapilly.

A seaport in Guntoor immediately adjoining the large village of Nynapilly, the name of which is also applied to it. A great portion of the revenue is derived from the growth of chayroot.

A detailed black and white sketch map of the archaeological site of Teotihuacan. The map shows the layout of the city, including the Pyramid of the Sun (A), the Pyramid of the Moon (B), the Pyramid of the Feathered Serpent (C), and the Avenue of the Dead (D). A scale bar at the bottom indicates distances in miles. A north arrow is located in the upper left corner.

Dr. The Faculty

D. The Puller
C. Puller

D. Virgil Forsyth, Jr.

Б. С. Зырянов

KURN O O L.

History.

The Chiefs of Kurnool, or as it is also named Kummer Nuggur, are of an ancient Affghan family, which originally served under the Beejapoor Sovereigns, but afterwards held military appointments under the Mogul Emperor, Shah Jehan. The Jaghire of Kurnool was conferred in A. D. 1651 by Aurungzebe, then Ruler of the Deccan, on Khizzer Khan, (a lineal ancestor of the late Nawāb.) Prior to this, the country formed part of the Bijanagar possessions. Khizzer Khan was assassinated by his son Daoud Khan Punnee, who being slain in battle in 1715, his body was dragged at the tail of an elephant round the city of Boorhanpoor. Leaving no issue, his brothers, Ibrahim Khan and Ali Khan, ruled jointly for six years, and were succeeded by the son of the latter named Ibrahim Khan, who rebuilt and strengthened the fort of Kurnool, and after a reign of fourteen years was succeeded by his son Alif Khan. Alif Khan occupied the guddee sixteen years; and was succeeded by his eldest son Himmut Bahadar Khan. In 1750 Himmut Bahadur accompanied Nasir Jung, Soubadar of the Deccan, on his expedition to the Carnatic, where, in correspondence with M. Dupleix, he confederated with the Nawāb of Cuddapah and betrayed the cause of Nasir Jung. In fact it was by the hand of Himmut Khan that Nasir Jung was treacherously slain, whilst fighting by his side at the battle of Gingee in December 1750. Summary revenge was taken in 1752 when Salabut Jung the Soobadar set up by the French, proceeded with Bussy to assume his Government. As they passed Kurnool they attacked and stormed it, putting all the garrison, and most of the inhabitants to the sword. The whole territory was not however taken, and subsequently a compromise in money taking place, Munawar Khan (son of Himmut Khan, who died before the storm of Kurnool) was confirmed in the possession of it as a Jaghire, which he quietly occupied until the arrival of Hyder from Mysore, who levied a contribution of one lac of rupees. In 1790 Munawar Khan sent a party of horse under the command of his third son, Alif Khan, along with the Nizam's army to join Lord Cornwallis, at Seringapatam. On his return the same year Munawar Khan died, after holding the chiefship forty years and was succeeded with the sanction of the Nizam,

by Alif Khan, who took advantage of the absence of his two elder brothers to seize the Jaghire, in the possession of which he subsequently maintained himself. On the transfer of the country in 1800, the rights of sovereignty exercised by the Soobadar of the Deccan became vested in the British Government; and to them Alif Khan always paid his *pésheush* of one lac of Rupees with great regularity. In other respects, his administration was woful.

Alif Khan died in 1815, and his eldest son and legitimate successor was Munawar Khan. The next brother however Muzaffer Khan, claimed the succession, and seized the fort, on which occasion it was found necessary to send a force against it from Bellary under Colonel Mariott. It was garrisoned by 4,000 men and considered impregnable. On the 14th December 1814 the batteries were opened, and a few bombs having burst among the Cavalry who could not escape as the Toombodra was full, Muzaffer Khan surrendered. Munawar Khan was regularly placed on the Musnud by Mr. Chaplin. He reigned for about 9 years, and died in 1823, much lamented by the people as the most just and lenient ruler they had had for many years. Muzaffer Khan was then the legitimate successor, and was to have been installed; but while on his way for that purpose in company with Mr. Campbell, the Collector of Bellary, he murdered his own wife, and the deed having been committed within the Company's country, it was judged necessary to punish him by imprisonment for life, on the hill fort of Bellary, where he only lately died.

An enquiry was then instituted as to which of the numerous sons of Alif Khan, still living, was the proper successor. Goolām Russool Khan was one of the youngest, but being the son of a dancing girl and not therefore of true Putan descent, was not properly the successor; still as he had always been a favourite of his father Alif Khan who had applied to the Supreme Government to get him recognized as his successor, he was accordingly placed on the Musnud. In the year 1839, a fanatical spirit was excited among the Mahomedans of India, emanating apparently from Scinde, and emissaries were despatched to the courts of Mahomedan chiefs and other influential persons, to endeavour to induce them to undertake a *Jehād* or Holy war against the Infidels, (English). Several of these emissaries were seized in the Madras Presidency, but they were persons of no character, and their representations had but little effect. Precautionary measures were however necessary, and it was ascertained that one of these

emissaries had had frequent interviews with the Nawāb of Kurnool, whose reputation did not stand very high. He had also on several occasions showed marked contempt and defiance of the British authorities in his neighbourhood, and was known to have collected vast quantities of warlike stores, vaunting that he would ere long show his importance.

Under these circumstances he was called on for explanation, and on his refusing to give it, a British force was assembled at Bellary, which shortly moved towards Kurnool, attended by two Government Commissioners. The Nawāb was still obstinate, and refused to allow Kurnool to be entered on any terms, till at last preparations were made for an attack. He then quitted the fort attended by a large party of mercenary Rohillas. They were called upon to surrender, but their only reply was a desperate charge upon our troops, who being far superior in numbers cut them to pieces, though not without loss. The Nawāb was taken, sent as a State-prisoner to Trichinopoly, and the country taken possession of by the British Government; no kind of resistance being made by other parties. A few months afterwards the Nawāb was assassinated by one of his own followers, as he was coming out of the Mission chapel in the Fort of Trichinopoly. A report was spread that he was meditating Christianity, but his visit to the chapel was one of mere curiosity; and the cause of the murder was revenge, on account of his ill-usage of some of the murderer's family. The assassin was hanged, and the Nawāb's corpse conveyed to Kurnool for burial. Subsequent events tended to show that there was no real intention on the part of the Nawāb to place himself in warlike opposition to the British Government. He was a man of violent and ill-regulated passions, and had conceived a fancy for making military display; a fancy which was encouraged by his minister Namdar Khan, who obtained for his own relatives very profitable contracts to supply gunpowder, lead, and other stores. On the British troops taking possession of the fort, immense quantities of gunpowder were found perfectly exposed, and had a shell been fired as was intended, the whole place would probably have been blown up. Most of the cannon were not powder proof, and many of the shot were too large for the cannon. The Nawāb's family and adherents and the townspeople were altogether at feud with their Ruler as to his proceedings, and it is quite absurd to suppose that any military operations were contemplated.

The country was then (1839) placed in charge of a Commissioner with a Military Assistant, and so continued till July 1863, when by Act X. of that year, a Government Agent was appointed, subject to special restrictions. The whole Revenue is about 8½ lacs of Rupees.

KURNOOL, * Fcslx 1260—Area = 2,643 Square Miles.

Talooks.	Cushab or principal Station.	Number of Villages.	Population.	Extent of Land cultivated.			Land Revenue.	Number of Pottahs.	Extra sources of Revenue.
				Wet and garden.	Dry.	Total.			
1	2	3	4	5	6	7	8	9	10
				Acres.	Acres.	Acres.	Rupees.		
1 Chagalmurry...	Chagalmurry...	54	20,733	1,245	36,956	38,201	78,692	2,349	Sayer..... 6,020
2 Sirwell.....	Sirwell.....	48	24,880	953	58,467	59,420	97,263	2,491	Abkarry..... 73,315
3 Nundial.....	Nundial.....	47	33,275	1,836	50,382	52,218	1,06,947	3,085	Petty Licenses. 4,626
4 Panien.....	Panien.....	46	37,355	925	46,389	47,314	97,337	3,017	Moturpha..... 55,943
5 Dhone.....	Ramalecottah..	91	46,385	2,321	58,945	61,266	96,573	3,804	Stamps..... 1,827
6 Goodoor.....	Calloor.....	48	31,011	564	54,477	55,041	65,739		Total..... 1,41,431
7 Nundicoor....	Nundicoor....	70	29,163	931	59,536	60,467	1,08,456	2,205	POPULATION.
8 Ateoor.....	Ateoor.....	81	27,675	2,650	40,535	43,185	71,521	2,531	Hindos.... 2,38,682
Total.....		455	2,49,877	11,525	44,152	55,677	7,02,882	22,741	Mahomedans 2,38,682
9 Kurnool Town...		1	23,313						Hindos... 45,165
		456	2,73,190						Total... 2,73,190

* Fcslx 1260 began July 12th 1859

Aspect.

In reference to the surrounding country, the town of Kurnool is placed in a hollow, being on the river bank; the view to the eastward is terminated by a low range of hills about five miles distant; on the west the ground gently rises for about a mile and a half when the view abruptly terminates; on the north it also rises

gently from the other bank of the Toomboodra, about the same distance ; and on the south the view is bounded by a wedge-shaped hill, about four miles distant. From the base of this hill the country slopes gently to the small river Hindry, south of the town ; the general aspect of the country near Kurnool, is bare and uninviting, owing to the numerous loose stones which cover the surface in every direction, and the almost total absence of trees. Farther to the eastward it is better wooded and more pleasing to the eye. The eastern boundary of Kurnool, is a range of hills thickly clothed with wood over which into the Cumbum sub-division of Cuddapah are a few Passes, fit only for bullocks carrying gram and salt. The chief Pass is the Nunda Cunnamah, and a good road is now being constructed through it.

Rivers. The Toomboodra, upon the south bank of which the fort and pettah are built, rises in the western ghauts, and shortly after receiving the Hûggry in the Bellary district becomes the boundary between the Kurnool district and the Nizam's country. It runs in a direct course east until it reaches the town of Kurnool, where the Hindry falls into it, and then winding to the north-east, joins the Kistna at Coodely-sungham, about 16 miles below the town. The rise of its waters is very sudden, sometimes dangerously so, and its fall is very rapid also ; from the end of December to the end of May, it is a clear stream, little more than knee deep. The bed consists of sand and pebbles, and opposite the town it is very rocky. The river when full is crossed in basket boats ; it is then about 900 yards in breadth, having a depth of water, of from 15 to 25 feet. The day before the storm of May 1851 the river was dry : and on the next day (7th May) it had risen 33 feet ! The extent of injury was much less than might have been expected.

The Hindry is a small stream which has its source to the south-west of Kurnool ; it also rises and falls very suddenly ; its bed is sandy, and though occasionally not fordable, it is for several months of the year a mere brook. When the Hindry and the Toomboodra are both full together, it is dangerous to cross either near the town even in basket boats, as there is quite a whirlpool of surf at the east of the pettah where the rivers meet, and a fearful current.

Twenty miles to the north-east of Kurnool and to the east of Coodely-sungham before mentioned is the ford of the Kistna, on the high road from Cuddapah to Secunderabad, and though not so broad as the Toomboodra, the river is deeper, and its banks higher ; when

the rains fall in the western ghats, the volume of water laden with mud, trunks of trees, &c., which rushes down, is very great; its bed is of sand and stones, it is fordable at the same season as the Toomboodra and, like it, may at all times be crossed in basket boats.

Climato. The climato of Kurnool is considered healthy though hot. The prevailing winds are west, and north-east. April and May are very hot; in these months, the thermometer *in the house*, ranges from 86° at daybreak to 100° at noon, the wind being westerly. In July the first half of the month is cloudy, with strong westerly breezes, the other half is showery with west winds. In August frequent showers, and occasionally heavy rain with thunder and lightning occur, the wind being west. September cloudy and hazy in the morning, the evening close, with occasional rain, the thermometer from 76° at daybreak to 88° at noon. October, weather the same as in September till the 12th, or about the middle of the month, when the wind changes to north-east. November is occasionally cloudy, thermometer from 76° to 82° . December, one or two rainy days occur, but for the most part it is clear and bracing, thermometer 64° to 78° , wind north-east.

Soil. The prevailing soil is black cotton ground lying upon limestone, which is intersected by trap dykes; the black soil is seldom more than eight or ten inches in depth, the surface being covered with limestone shale, but in the vicinity of the hills, it is red and sandy. The hills which are near the town are of sandstone, and sandstone conglomerate, passing into arenaceous schists. Kurnool is rich in minerals; galena, and ores of copper and iron, abound.

Manufactures & Natural Productions. Kurnool has its manufactures of muslins, stout calicoes, cotton carpets, gold and silver ornaments, copper and brass vessels, iron utensils, clay goglets, slippers, saddle cloths, indigo and arrack. European and China goods, as well as the produce of the district, are to be obtained in the shops, and many useful as well as medicinal articles in the bazaars.

The staple productions in the neighbourhood of the town are sugar, cotton, jowaree, coolty, chenna, kungance, and tobacco; also vegetables. The rock melons are the finest in Southern India, and it is a tradition that the seed was originally brought from Affghanistan by the ancestors of the present Patans.

A good sort of pony used to be bred at Kurnool, and the game fowls are remarkable for their beauty and courage.

Inhabitants— The Patans of Kurnool are a fine race, with Jewish
 Customs of. features, courteous in manners and address, fond of horsemanship, cock fighting, and ram fights. The better sort live well, animal food and wheaten cakes constituting a large portion of their food; but the poorer classes and labouring Hindoos subsist chiefly on rice, jowaree, and bajree, with meat or fish occasionally. The poor all sleep upon cots, or charpaes. The inhabitants in general notwithstanding they are said habitually to make use of opium and tobacco, attain to a considerable age. In this their Deccany metropolis, the Patans exhibit their ancient manners and fanaticism in considerable perfection, as they make a merit of being ignorant of every thing except horsemanship and the use of arms, regarding all other acquirements as effeminate.

Kurnool.

Is the chief town of the district, 290 miles from Madras, and is situated in $15^{\circ} 48'$ north Latitude, and 72° east Longitude, upon an angle of land formed by the junction of the rivers Hindry and Toomboodra (vide map.) Its elevation above the level of the sea is 900 feet. It is distant from Bellary 95 miles, and from Hyderabad 128, the roads to which places are passable for wheeled conveyances, in the dry weather only.

The pettah is on the tongue of land where the Hindry and Toomboodra meet. The fort is joined to it on the north-west being about 850 yards in length from north to south, and 690 in breadth, from east to west; its walls are built of limestone and sandstone, are 17 feet high, and 9 feet thick; the northern face is washed by the Toomboodra, and a deep and broad dry ditch runs from west to south. Several large circular bastions are placed at certain distances; there are three gateways, one, opening to the westward, another towards the Toomboodra on the east, and a third communicating with the pettah to the south-east. The fort is so built as to be out of reach of direct cannon shot. The glacis near the ditch is as high as the walls, and slopes gradually outward to a great distance. The only time that an European force attacked it, mortars only were used. The fort is inhabited chiefly by the relatives of the late Nabob, and their followers, by the Government subordinates, and by the officers of the Native regiments stationed here, though lately a few bungalows have been built west of the fort.

The houses are small, having formerly been native dwellings. The palace, barracks, arsenal and hospital, are also situated within the fort. The cutcherry is the other side of the Hindry, south of the town.

The soil in most parts is shallow; the limestone rock being found at a few inches depth, and in some places projecting through the surface; notwithstanding this, a number of trees principally the banian, margosa, and tamarind, grow in the compounds.

The pettah stretches from the south gate of the fort, to the point of the triangle, where the rivers meet; its sides are nearly equal, and it is about two miles and a half in circumference, surrounded by a wall ten feet high, and a ditch, for the most part dry, but in some places filled with stagnant water. The houses, amounting to about 4,000 are meanly built, and the streets narrow and badly drained. The population may be reckoned at 23,000 persons, above the half of whom are Mahomedans. There is a good bazaar, and the Police is under the jurisdiction of the Government Agent. The town is plentifully supplied with excellent drinking water from the rivers, but that which is procured from wells is brackish.

After the subsiding of the Hindry and Toomboodra rivers in November, extensive sandbanks are left, on which, besides vegetables of different kinds, melons of superior quality are grown. The melon beds are made by digging trenches about the middle of December and mixing regur or black soil with the sand, and plenty of manure. The fruit becomes ripe about the end of February. When the Toomboodra is first flooded the melon beds are all swept away, and a stratum of mud is deposited on the sand close to the walls of the pettah and fort, this however soon dries, and by subsequent rising of the river is swept away.

The barracks for the Native infantry are situated in the fort near the western gate and close to the drill ground; the building is 170 feet long, with a verandah at each side, and is capable of containing 1,026 stand of arms. In the fort there is also a barrack for 30 European artillery, with serjeants' quarters, a cook room, congee house, privy and a shed for guns.

The regimental lines are situated on a plain, about 300 yards from the west gate of the fort, with which there is a communication by means of a causeway over the low black soil. The parade ground is contiguous to the lines, and the village of Nova-pettah lies between them and the Toomboodra, their length is 371 yards from east to west,

and 170 in breadth ; the streets are wide and the houses good, but the drainage is bad for want of a sufficient fall. The population is about 4,000, and that of Nova-pettah about 2,000. The lines of the Risalah or regiment of Irregular horse are situated a little to the north of the Hindry, the houses are good and neat, the streets wide, and the draining towards the river perfect ; the number of troopers is 230, besides officers. Cholera, small pox, fever and syphilis are the most common diseases at Kurnool. The cholera carries off many every year. It is said not to have been known before the British accession of the territory, and first broke out among the troops as they advanced on Kurnool in 1839.

BANGANPILLY (JAGHIRE.)

The Jaghire of Banganpilly, lies between 15° and 16° north Latitude, and is in extent about 500 square miles. It is bounded on the N. N. E. and N. W. by the territory of Kurnool ; on the W. S. W.—S.—and S. E. by the district of Cuddapah. There is one point to the west which touches the Bellary district near the town of Dhone.

The Jaghire was originally granted to Mahomed Beg Khan, son of Ala Kouli, Aurungzebe's Vizier, and was in his family three generations. The last of the race having no male heirs it was granted to Hoosein Ali Khan, (his father had married a daughter of Mahomed Beg) grandfather of the chief of the same name in whose time (1835) it was assumed by the Company. In the first Sunnud from the Nizam (A. D. 1764) the Jaghire is described as in Circar Nundial—Soobah Beejapoor. The Jaghire was held on the condition of supplying a troop of horse and keeping the forts and garrison in good condition. The Sunnud was renewed by Tippoo, and when this part of the country fell to the Nizam's share by the treaty of Seringapatam, 18th March 1792, it was again renewed by the Hyderabad Court, with which state the Banganpilly Jaghiredars have always maintained a close connection. They were never very intimate with their Patan neighbours of Kurnool.

By the treaty with the Nizam, of 12th October 1800, the Jaghire of Banganpilly was made over to the British Government with Kurnool, and the other Ceded districts south of the Toomboodra and Kistna, but it never paid tribute or peshcush either to the Nizam or to our Government.

In 1832 the Jaghiredar claimed the protection of the British Go-

vernment from the violence of his Patan creditors, and as he did not seem inclined to come to any proper arrangement, and the peace of the country was being disturbed, the Government in 1835 assumed the Jaghire. Considerable enquiry was made as to the terms on which it was held, but there was nothing to show that it was hereditary. In 1840 certain documents, the genuineness of which could not be doubted, were discovered in the Bellary Cutcherry, which showed that at the time of the treaty with the Nizam, the Resident had given a pledge that Banganpilly, should be held permanently by the Jaghiredar and his successor as long as he was loyal to the Paramount Authority. The Court of Directors therefore in 1840 directed it should be continued to him as soon as his debts were paid off, and his Patan creditors satisfied. The Jaghire was also placed under the Commissioner of Kurnool (Kurnool having been taken in 1839) who so arranged the Jaghiredar's affairs that no demands of any consequence remained in A. D. 1848.

Under these circumstances the country was formally given back into the hands of Hooscin Ali Khan, who however died a few months after, on the 25th October 1848; and as he had no sons, was succeeded under sanction of Government by Ghoolam Ali Khan, the younger of his two nephews, but to whom he had married his only daughter. She had since the death of his (Ghoolam Hooscin's) brother Futteh Ali Khan, been regarded as his heir.

In former years the Jaghire was divided into two Pergunnahs, viz., those of Banganpilly and Chinchimulla, the former comprising 42, and the latter 22 villages. These were originally two separate Jaghires of two brothers, but have been united since A. D. 1814, when one of the brothers died.

The eastern and southern parts of the Jaghire consist generally of a fertile plain of black cotton soil, producing large crops of cotton, and various kinds of dry grain. The plain is bounded on the western and northern limits by detached ridges of hills, which running down from Kurnool take a south-easterly direction by Gooty, Cuddapah and Tripetty, and terminate near the eastern coast of Naggery.

About half a mile to the westward of Banganpilly lies the low range of hills, in which the diamond mines are situated.

A sandy road connecting the trade of the Ceded districts with that of Marudagan, Nellore, Guntur, &c., by the direct route of the

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A ready road connecting the trade of the Ceded districts with that of Madras, Nellore, Guntur, &c., by the direct route of the

Nundi Canama ghaut *in the Kurnool district*, passes through the centre of the Jaghire.

The principal places are Banganpilly, Chinchimulla, Nundawarum, and Tirugatoor.

The population is said to amount to about 40,000, but this cannot be relied on.

It is chiefly Hindoo, though there are many Mussulmans particularly at the principal town.

The revenue is about 120,000 Rupees annually. It is chiefly derived from land rent. The sayer duties have been abolished at the request of the British Government.

At Banganpilly a variety of cotton cloths are manufactured and dyed. These are chiefly adapted for Mussulman wear, and by far the larger proportion finds its way to the Hyderabad market.

The diamonds produced here are cut and set at the town of Banganpilly, and used to form an article of trade.

The Jaghire produces a large quantity of dry grain chiefly jowarce (Holcus Sorghum,) also cotton, and a small proportion of rice; Erundee (Ricinus communis major,) and other grains,—oils, ghee, tamarinds and toddy. In many places earth-salt is manufactured from washings of the soil impregnated with muriate of soda.

Banganpilly.

The chief town lies in the plain near the entrance to a broad defile formed by the branching off of two parallel ranges of low hills; one taking a north easterly direction, the other a little south of east. The town is divided by a stream of clear water called the Zurairoo, into two parts, which are again subdivided as follows: Condapettah and Santapettah on the right bank, Kungrazpettah and Hasbahpettah on the left. The buildings generally have an ancient and somewhat ruined appearance.

The fort is also situated on the left bank; it is little better than the ordinary village forts scattered over the Ceded districts, loosely built of limestone cemented with mud. Its round bastions are connected by curtains pierced with loop holes for match locks.

The entrance is from the north. Round the whole runs a ditch now nearly dry, the bottom partly cultivated and partly choked up with rank vegetation. The walls enclose the Nawab's zenanah, his

residence and those of the retainers attached to his person. In the pettah at the northern side of the fort are some strong and defensible houses of stone.

The diamond mines are situated in and near a low range of hills about half a mile from the town. The matrix of the gems, is a sandstone breccia lying under compact sandstone, of which the hills in the neighbourhood are composed. This breccia is composed of a mixture of coloured jasper, quartz, and hornstone, cemented by a silicious paste. It passes into a pudding-stone of rounded pebbles of the above materials cemented by an argillo-calcareous earth of a loose friable texture, in which the diamonds are found. (Voysey.) This holds good also with regard to the diamond alluvium found at the base of the hills washed by the Pennaur, near Chinnoor and Ondapettah, in the *Cuddapah* Collectorate.

The process of mining is simply digging out the gravel, breaking up the larger pieces of the breccia, washing and sifting the fragments, and spreading them out on the ground. The diamonds are easily detected by the practised eye of the Native.

No diamonds of a greater value than 300 or 400 Rupees have been discovered here for many years; the specimens shown by the diamond merchants on the spot are extremely poor.

BELLARY.

History.

IN the reign of Krishna Rayer, the famous Hindu king of Beejanugger, a chief named Timmapa from the hill of Saha Jebbal in the Concan, emigrated with all his household, and settled at a place called Rais, on the banks of the Toomboodra. He sent many presents to Krishna Rayer who bestowed upon him the four talooks of Bellary, Kurgode, Tekkulkot and Hündi Anantipur. Timmapa having sent some of his relatives to take possession of the three latter, selected Bellary as his own place of residence, and built a small fort, which his son Rungapa, who succeeded him, and adopted the title of Nair, considerably added to, and strengthened; 1,000 Rupces annual peshcush were paid by the Nairs of Bellary to the Rajas of Beejanugger. Rungapa died about A. D. 1559, and was succeeded by Deopa Nair in whose time the Beejanugger Dynasty was overthrown by the Mahomedan kings of the Deccan at the battle of Tellicotta, A. D. 1564. Bellary then became tributary to the sovereigns of Beejapur. Deopa Nair died about 1600. His son Hunampa succeeded and assumed the title of Raja. He defeated the Raja of Beejanugger, (for after the battle of Tellicotta the title was kept up, but with very diminished power by the posterity of the Raja who moved further south) in the plain of Kumply, but was compelled to raise the siege of that place. He died about A. D. 1650, and was succeeded by his brother Chick Ramapa. This chief defeated Venkat Rayer of Beejanugger, who had overrun and ravaged the plains of Bellary. Ramapa died A. D. 1681, after installing his son, Hanapa, who continued the family feud with the chiefs of Beejanugger, Anantipur and Kanighirri, and died about A. D. 1700. Ramapa Nair his son succeeded, and took the chief of Anantipur, and all his family prisoners to Bellary; he died A. D. 1716.

In the time of Ramapa's son, Hanampa Nair, the Beejanugger chief led an army to Courtney to besiege Bellary, but retreated on finding Hanampa fully prepared to receive him. The latter died in 1750, childless. His adopted son Dudapa succeeded. It was in his time (A. D. 1769) that Subder Jung, and Bussy, were sent by Basalut Jung, the brother of the Nizam, and to whom this portion of the country was allotted, to take Bellary; but while their army was before the place, they were attacked by Hyder Ali, and defeated. The Nair, after witnessing the issue of the combat from the summit of the hill

Aspect. The district of Bellary is generally very flat and open, and in the hot season the country has a sterile appearance from the scarcity of trees and vegetation : but shortly after the first fall of the rains in June, the plains become converted into vast and luxuriant fields of grain. Most of the open country is a rich black cotton ground, but near to the hills it is of a deep red, and is much covered with stones.

Rivers and Irrigation The principal rivers in the Bellary district are the Toongabûdra, the Pennar, Hûggry, or Vedavutee, a branch of the Toongabûdra, and the Chitravutee. There are numerous other small rivers and nullahs, which empty themselves into the Toongabûdra, and only contain running water during the rains. None of the rivers, large or small, are navigable for any distance.

The wood required for the use of the station of Bellary is floated down the Toongabûdra. Several annicuts or dams are built across the head of the latter river to raise the height of the stream, from which, water-courses are opened for the irrigation of extensive tracts of country along its banks, particularly at Chitwadaghee Hampy, (the ancient Beejanugger), Seeragoopah and Rampoor.

The principal reservoir is that of Bookaputnam, formed by embanking the gorges of a range of hills, through which flows the river Chitravutee, a large and usually abundant stream ; the surplus of which, after filling the extensive lake of Durmavaram, some miles lower down its course, supplies a number of small irrigating channels.

The Darojee, Shinganinulla, and Anantapoor tanks, are the next in importance, but these depending on inferior streams, are very precarious in their returns.

The tank of Camlapoor, is the only one accessible to the waters of the Toongabûdra, which it receives in limited quantity, from the surplus of an extensive river channel.

The following statement exhibits the value of the principal tanks in Bellary, the revenue being taken at the highest amount realized in the most favorable season, and exclusive of all deductions.

Tanks.	Highest of bed level exclusive of Masonry land.	Circumference of tank when full.	
		M	F.
1 Bookaputnam	22,818	13	1
2 Shingamulla	13,948	11	6
3 Anantapoor	13,002	8	2
4 Gurgee	9,501	12	1
5 Dummavaram	7,038	11	2
6 Canaenl	8,175	8	5
7 Darjee, 18 miles west of Bellary	7,320	9	3
8 Dumarankerru	8,686	5	5
9 Gohnoor	6,381	7	1
10 Chinnu Toombalum	6,159	5	1
11 Yerradunoyencherloo	2,700	8	5
12 Morabangul	5,159	9	6
13 Kumbadoor	1,019	8	1
14 Gooty	3,872	6	1
15 Uggalee	6,899	9	1
16 Moolakalade	1,229	7	4
Total Rupees		1,28,631	

With few exceptions, the embankments are in excellent order, and the stone revêtements, many of which have been re-built, are of very substantial construction. But from the accumulation of silt, brought down by their supplying streams, the beds of most of these reservoirs have become so much raised, that they are no longer capable of retaining water sufficient for the irrigation of the lands formerly supplied by them; and although this cause of deterioration has been partially obviated, by raising the embankments, yet such a remedy is not always applicable, from its involving the submersion of the lands of other villages.

A considerable proportion of land under some tanks has been rendered sterile, by the quantity of salt, or soda, which it now contains; a circumstance affecting chiefly the fields more remote from the reservoir owing to the impurity contracted by the water in its passage to them.

Some loss of arable land appears to have been occasioned by the bursting of tanks; the effects of which, in sweeping off the rich soil, are often distinctly visible, though happily, such accidents are now of rare occurrence.

Very few tanks producing revenue on the Cession of this district, have been suffered to fall into permanent ruin since that time; but there are many ancient bunds which were breached during the Native Government, and have never been restored.

The beds of some of these old tanks afford a very profitable dry cultivation from the rich alluvium they contain, but of many the re-construction appears advisable, as mere reservoirs for the use of cattle ; especially in the black lands where drought is often most severely felt.

It is not from the mere quantity contained in their own beds, that these small tanks derive their chief value, but from the supplies they yield to springs, from which, wells formed within their influence, are fed.

The river-channels of Bellary are of two classes, the first of which issuing from the Toongabûdra, are all maintained by annicuts ; the second and most numerous kind are those drawn from the Pennar, Hûggry, Chitravutee, and inferior streams, none of which are artificially raised.

In both cases irrigation is confined to very narrow limits on the banks of the rivers, but the Toomboodra channels are certain and superabundant in their supply ; while in the secondary channels, the scarcity of water is often such, as to render the crops very precarious, and occasion serious quarrels among the ryots, whose labours under the most favourable circumstances, are unremitting, and severe.

No material change has taken place in the great Toongabûdra channels, of which, owing to the comparatively small extent of dependant land, the aggregate net revenue after all deductions for repairs, &c. is not more than 1,30,000 Rupees.

The annicuts constructed of large masses of uncemented stone, are maintained in efficiency ; and the channels undergo an annual clearance which preserves the regular flow of water, the yearly cost of these works being about 16,000. But in the revenue derived from secondary channels, a sensible decline has been experienced within the last half century, owing apparently to the want of sufficient care to preserve the lands from the attacks of the river, and also from the overwhelming sands, drifted up by the high, and prevailing westerly wind.

The Banks of the Pennar and Hûggry, chiefly consist of soft loamy soil, readily yielding to the violent current of the river freshes, the annual encroachments of which on the field are very perceptible ; as well as the injuries thus occasioned to the channels, by being brought in close proximity to the bed of the stream, in which some have become entirely absorbed.

The enormous accumulation of sand on the east bank of the rivers

by which the channels are choaked, and cultivation destroyed, is an evil, against which, though evidently progressive, no means of prevention have yet been attempted; and although the loss of revenue from this and other causes, may be trifling in any particular locality, yet, from the numerous instances that have come under observation, the aggregate deterioration must be great, and the discouragement to cultivation serious.

The large wells (bowries) are very deep, and require great labour in sinking them, as they have to be cut through hard soil, and even occasionally through solid rock. On the black cotton soils very great depth is required, and the water is generally scarce, and brackish, though it is used for drinking for want of better. In the low grounds near the banks of rivers, water is easily obtained at a depth of about 12 feet.

Natural Productions. The proportion that the irrigated land (cultivated and waste) bears to the dry is about 2 lacs of acres to 50. Cotton is the staple of the district, though cocoanut and areca trees, tamarind and lime trees, and sugar-cane, are grown; also wheat.

The chief produce of the black lands are cholam, cumboo, millet and cotton; these likewise grow in light red soil, but the castor oil plant, with various kinds of pulses, are chiefly cultivated in the latter, and are all sown at the same time.

The most common indigenous trees are the *babool*, the *ber*, and the *wild date*. The *babool*, or gum arabic tree, is chiefly met with along the banks of nullahs, but is also found on the plains; the wood is very hard, and valuable for making ploughs and other agricultural implements. Gum is likewise collected from it, and the bark is used in tanning, and also in the distillation of arrack. The *ber* tree, or *zizyphus jujuba*, has some resemblance to the birch, in the upper surface of the leaves being of a deep green, and the lower of a whitish color. The wood is used in building, and the fruit is eaten by the Natives. The leaves, ground up with *tyre* (curds) are given in bowel complaints, and in difficult parturition. The leaves of the *wild date*, *elate silvestris*, are made into mats, the stalks into baskets and tatties, and the fruit is much prized by the Natives; the two last named trees grow in low sandy situations near nullahs. Much useful wood is brought from Sundoor and the adjacent hills, whence also Bellary is supplied with firewood.

The trees most commonly met with in gardens, are the same as those in other parts of India, such as the mango, tamarind, banian, margo-gosa and cocoanut, the two former being planted in red soil. The only shrubs seen, and which overrun the uncultivated black soil, are the *cassia auriculata*, and the glaucous leaved physic-nut, *jatropha glauca*, or as it has been called *croton lobatum*. The former resembles the broom in appearance, having a bright yellow flower; its seeds are considered refrigerant; the latter has a very unsightly appearance; and from its seed an oil is extracted which is used in chronic rheumatism and paralytic affections. These with a few acacias, are the only plants to be seen on the vast plains of cotton ground.

The *torilis euphorbia* is commonly found amongst rocks, and in red soil, with many other shrubs, such as the milk hedge, prickly-pear, aloes, *asclepias gigantea*, and *datura fatuosa*.

The state of agriculture in this country is very defective, especially in the manner of ploughing and manuring; but the after process of clearing the fields of weeds and loosening the earth about the roots of the plants appears to be well managed by means of small hoes drawn by bullocks, an operation easily effected, from grain of every description being sown in drills.

On first breaking up the black Régur ground, and once in about every 10 or 12 years, the soil is turned up with a large plough drawn by 12 bullocks, and traversed several times in different directions, until weeds and junglo plants and the *nutt* grass are entirely extirpated; a large tree is then drawn over it to break the clods of earth, thrown up by the plough; and an iron instrument called chinna coondooka, or the Native harrow, three feet square, is afterwards passed over it, still further to level and smooth the surface. To clear the land of the *nutt* grass is a very expensive process and requires digging as well as ploughing. The grain is sown in three rows at once, by the drill machine, worked by two bullocks; but large seeds, as the cotton, and castor oil, they sow in single rows, by a drill box held in the hand. The harrow is again drawn over the surface, to cover in the seed. In succeeding years the small plough worked by two bullocks and the harrow only are used.

Cotton is grown in drills along with cholum or with millet; with the former the drills are about six feet apart, and have from four to six rows of cholum, between each one of cotton; with the latter, the drills of cotton are only three feet apart, and have two rows of millet be-

tween them. When the crop of millet is cut down, a very singular and sudden change occurs, one day nothing being seen but yellow grain, which on the next disappears, and a thick crop of green cotton about half a yard high remains. None of the fields are enclosed, but they are generally protected, at the sides of the road, by rows of the prickly Jamaica yellow thistle, *Argemone mercurialis*.

In the irrigated ground, sugar-cane and rice are cultivated, the latter without being transplanted. When the grain is cut, it is carried to the threshing-floor, and trodden out by bullocks. The granaries in which it is stored are large holes dug in the ground, having only a narrow opening sufficient to enable a man to descend into them, but excavated to the size of six or more feet in diameter, and about the same in depth; when filled with grain, the opening is closed with a stone, covered over with earth. Grain, in time of war, used to be thus concealed from the enemy.

A preference is given to red soil for garden ground, in which carrots and onions of a very superior kind are produced, as also chillies, tobacco, and flowering plants, for making the wreaths presented to idols. Gardens are watered from wells, the water being raised by bullocks; melons are extensively cultivated in the dry beds of rivers, and sand being excavated to the depth of two or three feet, in the form of pits or trenches, into which two or three baskets of earth manure are thrown previous to the seed being put in.

The following is an abstract in acres of the land, and the portion cultivated in 1850.

	Entire land	Portion cultivated.	Average tax per acre.
	Acres.	Acres.	Rs. A. P.
Dry.....	Régur..... 10,37,634	5,53,350	1 7 0
	Mussub..... 18,92,669	5,10,066	0 12 0
	Lāl..... 22,36,125	7,23,893	0 5 0
	Dry converted into wet.	3,30,169	5 15 0
	<hr/> 51,66,428		
Irrigated.	Wet..... 1,62,708	83,847	9 8 0
	Droo-pyre..... 3,302	3,365	10 11 0
	Garden..... 56,620	27,759	6 13 0
	<hr/> Total..... 58,89,058	<hr/> 19,65,134	
	Barren Land..... 15,63,412		

Manufactures. There is a considerable manufacture of good and cheap cumblies, woollen and cotton carpets, and cotton cloths at Bellary.

Earth salt is made throughout the district; the salt soil being scraped from the surface of the ground, and carried by buffaloes to the pans which are usually situated near nullahs, for the convenience of obtaining water. The pans are made of clay, with an aperture at the bottom to allow the brine to run out. They are filled with the earth, from which the saline parts are drawn off by lixiviation. When the process is finished, the earth is thrown out at the side of the pans, where it gradually accumulates, forming large mounds.

Iron of good quality is manufactured in Sundoor, and a few other places. The furnaces are small, and covered over with a thinly thatched roof. The bellows in use are made of an entire bullock's hide, and in working them, they are compressed both by the chest and arms. The iron is allowed to cool a little or harden, before it is removed, when it is drawn out from a hole of about a foot in diameter, at the bottom of the furnace; and four men then beat the red hot mass, with large wooden clubs, into a round body, somewhat larger than a man's head; it is then cut into halves with small narrow axes, about two inches broad, and allowed to cool. The clubs which are used instead of hammers, have small handles, and swell out into large knobs at the end.

Kunkur, or nodular limestone,* is generally found all over the district. It is burned into chunam or lime in small kilns, by means of charcoal.

* The composition of "Kunkur" is as follows. —

Water of absorption.....	1·4
Carbonate of magnesia.. . . .	0·4
Alumina and Oxide of iron.....	11·0
Silica.. . . .	15·2
Carbonate of lime.. . . .	72·

100·

Some organic remains have been found imbedded, but they belong to living species. It appears to be a sedimentary formation something similar to the "Travertine" of Italy. — [*Madras Journal*, Oct. 1837]

The underlying rock in the Ceded Districts (Bellary and Cuddapah) is generally Granite or Gneiss. The Granite is variegated, its feldspar being generally red; the mica occasionally gives place to hornblende. Diabase also is sometimes found in the granite, in narrow stripes, finely crystallized. Chlorite appears occasionally among the Adonic hills, and a coarse Porphyry is not unfrequent. — [*Madras Journal*, Jan, 1812]

Minerals

The chief mineral in Bellary is iron ore, and from this iron of excellent quality is made. Copper, lead, and antimony have been found, but are rare. Native soda, (natron) salt, and saltpetre abound in some soils.

Animals.

Wild animals are numerous, such as hares, antelopes, spotted deer, foxes, jackals, hyenas, beside which, in the wilder districts are monkeys, hog, elk, bears, cheetahs and tigers; birds are found in great variety. Amongst them are the hoopoe, jay, pigeon, woodpecker, cuckoo, tailor and mango birds; the quail, partridge, ringdove, pea-fowl, florikin, bustard, snipe, teal, wild duck, flamingo, owl, and hawks of various kinds. Insects are not particularly numerous, but scorpions are abundant, and the cobra-de-capella very common. The horned cattle of the Bellary district are of a good description. The draught bullocks selling at 15 to 30 Rupees each, and cows with young calves from 10 to 20 Rupees. Large flocks of sheep are reared; they are generally black with a coarse fleece.

Roads.

There are no regularly made roads, but from the level character of the black cotton ground, and the absence of stones, the roads over those lands are good in dry weather. After rain they become exceedingly heavy and stiff from the clay with which they abound. Below the surface of the black soil, kunkur (nodular limestone), is often found, which is a good material for roads, as is also the gravelly red soil at the foot of the hills. They have lately come into use in the new roads constructing to Bangalore and Dharwar.

The shortest road from Madras to Bellary is via Cuddapah, but it is so stony and bad that the Native cart drivers prefer the route over the Mooglee Pass and Palsamoodrum, though the ascents and descents are great. This route is only 20 miles longer than that of Cuddapah. A new line is now being laid out, which is to pass near Chittoor; cross the Damulcherroo Pass, and then to Bellary by way of Goorumconda. After surmounting the Damulcherroo Pass, a branch will take off to Cuddapah.

The country carts still in use are of a singular construction. The wheels being from one and a half to two feet in diameter, and made either of flat circular pieces of wood, or of stone slabs; the axles revolve with the wheels, and the body of the cart is well raised above them by two straight pieces of wood on each side, in which the wheels run; but carts with large wheels composed of spokes, felloes, &c., are coming into general use.

Population. The population amounts to 123,000. It is composed of a great variety of castes. People of two different tongues meet as it were in the district, viz., the Teloo goos and Canarese. The Teloo goo language is spoken in the eastern part of the district, and the Canarese in the western ; the line of separation lying half way between Bellary and Ghooty ; but the Teloo goo and Canarese villages are very much intermixed for some distance.

Most of the Teloo goo people are followers of Vishnu. The Brahmins and Comatics burn their dead ; the others bury. The Canarese worship Siva, and are chiefly of the Jungum caste, or those who wear the lingum or phallus, which is carried in a silver box on the breast, or tied round the arm ; they bury their dead. There are also considerable numbers of Mahrattas and Mussulmans. The inhabitants generally are tall, stout and well formed ; their food chiefly consists of dry grain, particularly cholum, jowaree or *holcus sorghum*, which is ground into flour, and eaten in the form of cakes ; rice being but little used.

The principal objects of worship among the Hindoos are Siva, in the form of a bull, and of the lingum ; Hunnoomaun in that of a monkey, and of the cobra-de-capella. Offerings to the latter are confined to the time of marriage. At Beejanuggur, now the town of Humply, there is a celebrated lingum pagoda, to which Natives from all parts of the country flock at the time of the annual festival. There is likewise another pagoda in Sundoor, erected to Kartika, the Hindoo Mars, which is a place of pilgrimage. In 1815, the Madras Government granted a remission of 2,000 Pagodas, on account of injury done to the crops, by the pilgrimage of the Peishwa and his followers through the district, to this temple.

Health. Small-pox is not often met with, though vaccination is by no means general. Cholera unfortunately often makes its appearance, both as an endemic and also in an epidemic form, carrying off numbers of people. Diseases of the skin are not very prevalent.

Bellary²--(Cantonment.)

316 miles from Madras.

A military and civil station in the District of Bellary in Lat. 15° 5' N., and 76° 59' E. It consists of a fort, military cantonment, bazaar and pettah ; a Civil Court, and a Collector's Cutcherry.

The general aspect of the spot is rather pleasing ; the officers' bun-

galows are neat white buildings, with tiled roofs, and gardens inclosed by little hedges of the milk plant. The cantonment bazaar is ornamented with rows of trees, and is, perhaps, the widest, cleanest, and most regular military bazaar in India. The lower fort at this place is considered by competent judges to be stronger than that at Ghooty.

The plain around Bellary is flat, presenting scarcely any undulations; it is wholly destitute of jungle, lightly covered with verdure, and from want of water is but little cultivated. At the distance of about six miles to the westward, it is bounded by a low range of hills, scantily clothed with vegetation.

The soil about the fort for the distance of a mile on three sides, is red and gravelly: a strip of black cotton ground about half a mile in breadth, runs through the cantonment on the south, on which the houses are generally built. The ground slopes in all directions from the fort and cantonment, so that no water lodges in the neighbourhood. The soil being chiefly artificial and much impregnated with saltpetre, the wells within the fort are brackish. The soil in the vicinity of Bellary is generally Régur, or the black cotton ground, based on a calcareous deposit of kunkur, except in the neighbourhood of granitic elevations, or protruding beds of gneiss, and large pegmatitic veins of quartz and felspar, where the soil is formed by the debris of these rocks which decompose into a reddish-brown earth termed Mussub by the Natives. This soil is sometimes extensively deposited in the low situations by the force of streams or torrents of rain when it becomes a *terreine de transport*, or alluvial soil.

The garden soil of the town of Bellary generally consists of Régur and Mussub soil, mixed with manure of decayed animal and vegetable matter.

The springs and wells as well as the soil, are often impregnated with muriate of soda, and carbonate of lime: these sometimes occur in immediate proximity of a spring of fresh water, a phenomenon probably to be ascribed to the almost vertical strata through which they rise.

It is a curious fact that many of the gardens at Bellary, formerly extremely productive, have latterly fallen off, and now yield little or nothing comparatively speaking: this is possibly owing to the practice of constantly irrigating them with water drawn from brackish wells; the fluid evaporating leaves the saline matter disseminated in

the soil, which by constant and progressive accumulation, diminishes, and in the end totally destroys the power of vegetation.

There are no rivers within some miles of the cantonment; and the only appreciable source from which malaria can be supposed to arise, is the aforementioned large tank. This, when full, is upwards of three miles in circumference, but being for the most part extremely shallow, it is soon reduced during the dry season, to half that extent, by the rapid evaporation from its surface. In this half dried state noxious exhalations have been supposed to issue from it, giving origin to remittent fever which has occasionally prevailed here; but some other causes however, must be referred to as capable of producing this form of fever as it has occurred during seasons, when the tank was completely filled. The smaller tank mentioned above, which extends along the western base of the rock, and terminates at the fortifications, is the source from which the garrison and the inhabitants are supplied with water for culinary and other purposes.

The fort is a quadrangular building on the summit of an isolated mass of rock not remarkably high, but protected by three distinct ranges of works, one above the other.

There is but one ascent to the top, partly formed by steps cut in the rock, and partly by scaling its irregular surface and taking advantage of its cavities.

The pottah below is spacious and contains a good bazaar, besides barracks for the European troops, and houses for some of the officers, the principal cantonments, however, are without the walls.

The fort or fortified rock, around which the cantonment of Bellary is situated, is a bare granite hill, of an oblong, or rather a semi-elliptical form, the longest diameter of which extends from south to north; it rises abruptly from the plain to the height of four hundred and fifty feet, and is about two miles in circumference. Viewed on its eastern and southern sides, it presents a bold and precipitous aspect, and appears to be composed of a huge heap of loose fragments irregularly piled on one another; on its western face, it declines with a gradual slope towards the plain, and exhibits a smooth, unbroken surface, indicating that it was originally one entire solid mass, and that, on its more exposed aspects, it has been gradually decomposed, by the continued action of the elements. At the distance of a few hundred yards to the northward, is a long ridge of bare rugged rocks

of similar formation, and at a short distance to the eastward, are several lesser elevations of the same character.

The rock is defended by two distinct lines of works, constituting the upper and lower forts, both built of granite; in the upper one the summit of which is flat and of considerable extent, stands the citadel; it is reported to be of great antiquity, and might be rendered impregnable: it affords however no accommodation for troops, and is consequently never occupied, except by a small guard. The cells for the prisoners are built within it, and from their elevation are at all times cool and pleasant; several tanks or cisterns have been hollowed out in the rock, for the purpose of retaining rain water. The lower fort consists of low turrets connected together by curtains, is of a quadrangular figure, has a dry ditch and covered way in front, and surrounds the base of the rock, from its south-western to its north-eastern angle; it is half a mile in diameter and within it are the barracks and the Company's European Artillery, the Arsenal, the Ordnance and Commissariat stores, the Protestant Church, and numerous bungalows, but now mostly abandoned by officers.

On the south side of the fort, about 100 yards from the rampart, is a large tank, with a road running along its edge; to the north, at the distance of 200 yards, is a rocky hill of granite; on the south-west the ditch is widened, and walled up at one end so as to form a tank, which is filled by the rain from the upper fort, and which descends from the rock in cascades during heavy showers; and on the east, is a wide esplanade containing the burial ground, beyond which is the Zillah Court, Jail, Collector's Cutcherry, and the houses of the principal European gentry.

The rock on which the fort of Bellary stands, as well as the adjacent rocks is of granite, and in some places intersected by green-stone dykes. Granitoidal gneiss, sometimes imbedding garnets, constitute the prevailing rock on the plain from which at the distance of 5 or 6 miles west of the cantonment, rises a range of hills composed chiefly of a chloritic slate crested with angular masses of a rock composed of a jaspery clay, highly impregnated with iron, and a chert-like quartz in alternate laminæ. The highest of the range is known as the *copper mountain*, from its being supposed to contain that metal. The ore, which is the green carbonate of copper, is found in the slate clay at the base of the crest of the southern epaulment of the hill. Excavations are still to be seen, said to be the remains of mines opened

here by order of Hyder Ali, but which were given up in consequence of the expense exceeding the produce.

The artillery barrack is upon high ground, close to the base of the rock; it is in the form of three sides of a square, and has a row of pillars in the centre of the rooms to support the roof, which is tiled, and without ventilators. Each of these buildings is surrounded by a high wall.

The barracks of the European regiment used to be in the fort. New ones on very improved plans have lately been built outside, about a mile west of the town.

There is an old European hospital in the fort, which is used as a receiving hospital for cholera patients, and for the sick women and children of the regiment.

The new European hospital is situated in a fine open dry plain, about a mile to the westward of the fort, and is calculated to contain 130 patients.

The military cantonment and the lines of the Native troops are situated at a short distance on the western side of the rock, while the General officer commanding the Division, with the military staff, and officers of the Civil service, reside on the opposite side.

The Native barracks, or places of arms, ten in number, are situated about a mile to the south-west of the fort, they have a southern aspect, are built of stone, and have tiled roofs. They can accommodate three regiments of Native infantry and one of cavalry.

The hospitals for Native troops adjoin the places of arms, and consist of three buildings, one of which contains two wards, sufficient for the sick of two regiments; another is the Native garrison hospital, which is formed of the most western place of arms, and the third is the cavalry hospital.

The Court house, jail and hospital are situated in one large compound to the eastward of the fort, about half a mile distant, and close to a small rocky hill, which protects them in some measure, from the strong unpleasant north-west winds which prevail during several months of the year. The site is high and dry, and there are no marshes in the neighbourhood.

The jail consists of several buildings, for the various classes of prisoners, in separate areas; the whole forming an oblong square, surrounded by a high wall, sufficiently distant to allow a free circulation of air. The department for the male convicts consists of 21 cells, each

fourteen feet in breadth and varying in length from nine to thirty ; that for the female convicts contain 6 cells, each fourteen feet square ; the jail for prisoners under trial consists of 8 cells, each fourteen feet square. The different courts are spacious ; the cells are of a good height and well built, and are freely ventilated, and kept remarkably clean.

About 50 yards from the principal entrance to the jail, is the Native hospital in a separate enclosure ; it is terraced and consists of two wards.

The climate of the town of Bollary represents that of the whole district. It is characterized by extreme dryness, in consequence of the air passing over such an extent of heated plains. During March and April it is very hot, though the nights are seldom oppressive. May also is warm till the S. W. monsoon sets in, but the other months are decidedly healthy and pleasant. Heavy dews and fogs are almost unknown. The fall of rain is small.

The wind blows principally from the west and north-west, from March to November ; and from the east and south-east in December, January and February, but with considerable daily variations. In the hot season, a strong wind generally blows from the westward during the night.

The most oppressive part of the day in the hot season is usually from 2 to 7 P. M., but the nights and mornings are comparatively cool, even at the warmest period of the year. In the cold season, the thermometer in the open air falls to 55° in the morning, and at times even below 50° and rises to about 100° at 2 P. M. in the sun.

The glare is at all times very great from the white sparkling nature of the ground which, as well as the roads, is composed of the *debris* of granite rock ; and verdure continues only for a short time, owing to the little rain which falls, and to the dry rocky nature of the soil. Lightning and thunder occur occasionally from April to July and again in September and October. The thunder is usually very loud, and a year seldom passes without the electric fluid injuring buildings, or persons, within the limits of the fort, or cantonment, and similar accidents are likewise by no means rare in the district.

Adoni.

Tradition states that Adoni was founded upwards of 3,000 years ago, by Chamar Sing, in the reign of Bhim Sing, ruler of Beder

Its ancient boundaries were the river Tumboodra on the north, the hills of Siahdongar and Kuppthat on the south, the jungles of Putticonda and Hindiconda on the east, and the Hûggri river on the west. It was built on five hills. It subsequently fell into the possession of the Beejanuggur Rajas, (who looked upon it as impregnable,) and formed part of the Jaghire of a female relation of Kishen Rayel Ram Raj ; the last independent sovereign of Beejanuggur received it as a dower with his wife, the daughter of Kishen Rayel, and nominated his brother, Kanam Raj, as its governor. Kanam Raj and his brother, Govind Raj, rebelled against Ram Raj who marched against them, but despairing of reducing the place, called in the aid of Ali Adil Shah and Kùttub Shah, the Mahomedan Kings of Beejapoor and Golcondah. After a resistance of nine months, the two brothers gave themselves up to Ram Raj, who generously pardoned them.

After the death and defeat of this sovereign and the fall of Beejanuggur A. D. 1564, Adoni was again taken possession of by the Beejapoor sovereigns, and placed under one of his Emirs, Siddi Rehan Khan, an Abyssinian, who died here and was buried on the hill. He was succeeded by Siddi Musaud Khan, in whose time the lower fort was built. The upper works are said to have been constructed by the Rayels of Beejanuggur and to have comprised eleven lines of fortification. The great mosque was also erected by Musaud Khan, at an expense of 2 lacs of Rupces ; he was two years in building it and the adjoining suburb of Babanuggur, so called in honor of his son. The country flourished and grew populous under the rule of this chief : the revenue is stated to have amounted to 6 lacs and 75,900 Pagodas : the military establishment consisted of 4,000 horse and 8,000 infantry.

During the administration of Musaud Khan, Adoni was besieged and taken by Aurungzebe's generals, Zehan Khan and Munsur Jung, after a determined resistance. After the decline of Aurungzebe's empire, Adoni remained under Mahomedan governors appointed by the Nizam of Hyderabad. In 1760 A. D., Basalut Jung, brother of Salabut Jung, Subadar of the Deccan, held it together with Raichoor and Guntoor : he made Adoni his capital and attempted to establish an independent principality. In 1778, Hyder defeated the Mahratta chiefs, Hurri Pundit and Purseram Bhow, near Adoni. Basalut Jung died about 1782 A. D., and was succeeded by Muhabet Jung Dara Jah, son-in-law of Nizam Ali Khan : about this time Hyder died. His son

Tippoo in 1786-7 A. D. besieged and took Adoni after a month's siege. He left a garrison under Kuttub-ood-deen Khan, which not being able to maintain their position, abandoned the place and retired to Gooty. Adoni at the close of the campaign was restored, with other towns taken by Tippoo, during its continuance. After his death it was ceded with the rest of the Balaghat to the English. Travelling distance from Madras to Adoni 309 miles; from Bellary 43 m. 2 fur.

Bijanuggur.

The legend of the circumstances to which the place owes its reputation for sanctity runs as follows :

“ Rama Chandra, 7th incarnation of Vishnu, came from the city of Ayodha in search of his wife Sita, who had been carried off by Ravana. He traced her to Bijanuggur where she had been concealed in a cave, called Sita Serwar near Chakr Thirt, a whirlpool in the river, which then did not exist, near Humpta; here he was met by Hunnoomaun the monkey god, son of Anjini, who was born and resided on a hill at the other side of the river called Anjini Dewi Purwat. At this time the cities of Annagundi and Bijanuggur were ruled by a gigantic tyrant named Wali, or Bali, who resided at the former city, whence he had driven out his brother Sugria the lawful monarch, who had taken refuge with the holy Rishi Matung, on a lofty hill on the south bank of the river overlooking Humpta, called Matung Purvut. On the summit now stands a temple to Vair Bhodra, tenanted by a painted Hindu devotee of uncouth and shaggy appearance, with an immense profusion of matted hair piled up over his head. Sugria descended the hill to Chakr Thirt and informed Rama that he would assist him in his search for Sita, provided that he would slay his usurper Bali, who had taken his wife. Rama accordingly slew Bali, whose ashes may be seen to this day, at a place about a mile east of Nimbapur, called Bali Dahanum Stalum. Rama then retired to the summit of a hill on the Kumply street, called Mullia Vunta Purvut, and performed *tapas* or penance during four successive moons. Thence accompanied by Hunnoomaun and Sugria he pursued his march towards Lanca.”

Regarding the foundation of the city other legends relate that Vi-diamya, a Brahmin from the north came to the banks of the Tumboodra to worship the Devi Humpta whose idol had stood erected

here for 4,000 years. After a long term of penance and prayer at the holy shrine of the idol, the goddess appeared to him one day and told him that whatever he wished should be granted. The Brahmin requested gold sufficient to build a city, which was immediately produced. A city (Anangoondy) and fort of 12 parasangs in extent were accordingly built on the *north bank*. The government of this the devotee entrusted together with countless jewels and treasure, to a shepherd, an inhabitant of the spot who had been accustomed to supply him with milk, &c., during the time of his penance. The city on the south bank was subsequently built. The shepherd's name was Buka, to which the Brahmin added the title of Rayel. Such is the origin of the Bijanuggur dynasty.

Mr. Taylor, (Orient. MSS. II. 92), gives the following account.

“ The origin of the Vijayanagaram kingdom is not without attendant obscurity both as to manner and date. A distinguished scholar named Madhava, with the titular appellation of Vidyaranya, (a forest of learning), according to the Mythological part of the statement, propitiated the favour of the goddess Bhūvān Esveri (a form of Parvati), and was in consequence directed to the discovery of a hidden treasure which he bestowed on two brothers, named Harihara and Bukha Raya. These last two persons appear to have been sons of Sangama, most probably a feudal chieftain of Tulava, under the Belala Rajas, but they themselves were apparently soldiers of fortune, who had been in the service of the Warankal kings ; and on the overthrow of this State by the Mahomedans, A. D. 1323, the two brothers carried with them a remnant of military forces, who were Telinganas; and, by their means, aided by the counsels and wealth (however acquired) of Madhava Vidyaranya, founded a new city on the south bank of the Toongabâdra or Tumboodra river ; which afterwards became very extensive connected suburbs being on the north bank. The date usually given for this location is S. S. 1258, A. D. 1336 : and the building according to the first plan, is said to have been finished S. S. 1265 or A.D. 1343. This date Mr. Wilson supposes may be too early, because the earliest of the grants of Bukha Raya is dated A. D. 1370 and the latest 1375. But this might very well be, for Harihara reigned in chief down to A. D. 1350 and Bukha Raya thenceforward and down to 1378. And if, as Colonel Wilks has stated, the capture of Warankal in A.D. 1323, led to the formation of this more southern kingdom, which was destined for two centuries to check the progress of the

Mahomedans, then it would seem that the foundation must have been as early as A. D. 1336. Mr. Wilson indeed admits that the traditional chronology is probably not very far from the truth."

Camlapoor

Is a large village, about 32 miles direct distance N. W. from Bel-lary, in the environs of the ancient city of Beejanuggur, of which it formerly was a part. It has a large tank, a fort with a ditch and glacis, but the majority of the houses are outside the walls. The ruins of many magnificent temples are seen in the neighbourhood. In 1820, the Raja of Beejanuggur used to live here ; but the family have since quitted the place and now reside on the opposite bank of the Tumboodra. Iron ore brought from the neighbouring hills is smelted here. The surrounding formation is granite. A large trap dyke is seen a little to the S. W. of the village running in an E. S. E. direction. Camlapoor contains above 2,000 houses, principally of the Paknath and Moortharti castes, a few Brahmins, Beders and Mussulmans.

Chillamacoor

Is a small village, 193 miles travelling distance N. W. from Mudras. It lies in a plain bounded on each side by the low ridges of hills, and surrounded by ruined walls said to have been built by Saneri Yagsashapa, a Brahmin. There are two or three ancient looking temples here, dedicated to Iswara and Hunnoomaun, and inscriptions on slabs of red compact sandstone lying on the ground. The inscription near the temple to Iswara is dated in the year 1305 of Salivahanna, or A. D. 1382. It testifies that the temple was endowed by Hurryhur, Raja of Beejanuggur, with 10 krohs of land in the townships of Chillamacoor and 3 krohs to the officiating priests. The pillar in front of the temple to Hunnoomaun, according to the inscription, was erected in 1670 A. S. by Ram Reddi of Chintaleonda and Chinapa Reddi of Vellypaulum.

The inhabitants are principally Kunbis, pursuing agriculture. The village comprises about 80 houses built of loose stones, four or five of which are occupied by Mussulmans. The rocks observed in the plain here are limestone, sandstone, and globular greenstones often covered

with incrustations of calcareous tufa. The soil is principally regur, irrigated by numerous wells, and produces abundant crops of raggi, jowaree, indigo, and cotton. Deposits of muriate of soda are found in the soil; the mounds of the old salt manufactures, used during the Pathan government, are still to be seen on the banks of a rivulet crossing the plain. There is a bungalow here for the accommodation of travellers, and a small indigo manufactory.

Courtney.

A large decayed village, 11 miles travelling distance W. by N. from the fort of Bellary, and 327 miles 5 furlongs from Madras, surrounded by a wall of mud and stone, of some extent with stone gateways. Courtney is a place of considerable antiquity: it derives its name which implies a seat from the tradition of Comaraswami, the Hindu Mars, having sojourned here previous to his expedition of Sondur against the Rakas or Grant Tarkasura. It was formerly held by a Despandi with seven smaller villages. The Jains appear to have formerly been the predominant sect. Outside the western gate is a naked image, the lower extremities partially buried in the soil, which from the sculpture, attitude, peculiarly formed ears, hair and mutilated state in which the statues of this sect are now usually found, is supposed to be one of the Jaina Thirtunkars. The testimony of the old inhabitants of the place corroborates this supposition; they add, moreover, that this image was formerly placed in a Jaina Busti within the village walls, but had been thrown out and defaced by the Jungums many years ago. This Busti is now converted into a Math, and occupied by a Jungum priest. Pillars and altars of the Jaina religious edifices, destroyed by the fury of their persecutors, are to be seen in the walls of the gateways. One of the Bustis has been converted into a mosque, another into a temple to Comaraswami, Parvati Ganesa, and the Ling. A niche is shown in this temple which is said to have formed the entrance to a cavern now blocked up, by which Comaraswami ascended to the summit of the Sondur hills. Numerous inscriptions on stone in the Hala-Canarese character, chiefly headed by representations of the Lingum, the Sun, and Moon, and mutilated sculptures, are seen scattered about the ruins of the old fort. Two monuments dedicated to *Kirhus* or *Kerus* slain in battle, stand on each side of the entrance to the bungalow compound; the tumuli from which they were taken are still visible in the enclosure. That on the

left exhibits a rude bas-relief of two warriors grasping swords in their right hands, and daggers, the Kattar, in the left. The centre of the group is formed by a female figure, said to be that of the wife of one of the departed heroes, who became entitled to immortality, by performing Suttee on the occasion of her husband's death; the figure on the right was probably a personage of some rank denoted by the Chatri over his head held by an attendant. The sun and moon on the right and left, are emblems of eternity symbolical, either of the combatant's glory, or as a mark to signify that the stone is to be preserved uninjured for ever.

Saltpetre is found in the earth about the town and manufactured—the principal occupation of the inhabitants however is agriculture. They are chiefly Lingayets of the Sadu, Silevant, and Pancham castes. The number of houses now inhabited in Courtney amounts to about 200. The Ringing stones in the vicinity of Courtney are the globular and angular masses of a large greenstone dyke, which from their peculiar positions and the phonoetic nature of the rock, emit a sharp ringing sound on being struck by a stone or hammer. There is a large tank with a handsome bund, which must have cost a considerable sum in constructing, to the S. W. of the village.

Gooty.

This celebrated place is traditionally said to have derived its name from the Rishi Gautama who is believed to have selected the rock as his favorite place of abode; a well is still pointed out as the place of his religious oblations. It was founded by a chief named Buka Raj under the Bijanuggur dynasty in the time of Kishen Row. The following is the Native list of the chiefs of this line and duration of their government :

Buka Raj.....	36 years.
Ram Raj.....	24 „
Tim Raj.....	24 „
Runga Raj.....	30 „
Trimal Row.....	38 „
Yerratim Raj.....	24 „
Trimal-duva Row.....	22 „

According to the same authority in the reign of this last prince, the celebrated Mir Jumla besieged the fortress which fell after a more

protracted resistance of 12 years. Mir Jumlah confided Gooty to the Government of one of his leaders, Mir Mahomed Masum, who ruled 12 years after him.

Nuwab Mir Khan..... 25 years.

Shaha Mir Khan..... 5 „

Bahadur Ruddi Khan..... 15 „

Gooty was taken in Ruddi Khan's time by the chiefs of Cuddapah and Adoni, from whom it was again taken by one of the Mahomedan Chiefs of Savanûr, Mir Abid Khan Shahid. In 1758 the fortress was taken by stratagem by the celebrated Mahratta Chief Morari Row, and its Killidar, Mir Abid Khan, barbarously put to death. Morari Row approving of the place built the present citadel, made other additions to the fortifications, and selected it as a stronghold and capital. After a series of vicissitudes, he sustained a severe defeat from Hyder near Kori Bandeh, and was compelled to seek refuge at Gooty, and to enter into alliances against the increasing power of the Seringapatam conqueror, with Basalut Jung of Adoni, and Mahomed Ali Khan, but the star of Hyder was on the ascendant; after making himself master of the fortresses of Sera, Chittledroog and Bellary, he turned his arms towards Gooty. Morari Row after a vigorous resistance and successfully repulsing the repeated attacks of the besiegers, in which Hyder lost the flower of his army, was at last compelled to capitulate, and was carried away by Hyder with all his family into captivity. He was never heard of after, and is strongly suspected to have died a violent death in the dungeons of Copaladroog. A local tradition still prevails that Hyder could never have taken the place, had not the tanks of water on the summit been dried up by enchantment, a circumstance which it is said, was treacherously communicated to him, by one of Morari's Zenanah. Gooty was besieged and taken by General Bowser from Tippoo's Killadar in 1799.

A well is shown near the summit of the mountain which is said to have communication with the Paunari, a stream at some distance from the base. The narrow cavern in which the well is situated, appears to be of some extent. Swarms of bats issue from it on being disturbed by the splash of a stone thrown into the water. The durgah on the road to Margooty is erected to the memory of Syed Sahib who was killed when Mir Jumlah took the place. Pious Mussulmans believe that the body of this chief walked for some distance without the head, and fell near the spot where the durgah is erected. The Gooty tank was

made by Tim Raj, the 3d Hindu ruler, and the Yertimraj tank by the 6th Prince Yertimraj. A choultry and tank have been constructed at Gooty to the memory of Sir T. Munro, who died a short distance hence at Putticonda on the Adoni road, of cholera. His remains were first interred in the church yard of Gooty, but subsequently removed to Madras. The garrison now consists of two companies of Native infantry, furnished from the cantonment of Bellary. The citadel on the summit of the rock is used as a state prison. In December 1838, there were 39 state prisoners principally from Berhampore and Goomsoor. The population of Gooty is between 2 and 3,000, about 6 hundred of them are Mussulmans. The prevailing language is Telinghi. Canarese is however a good deal spoken.

Gundikota.

The town and fortress of Gundikota are situated in lat. $14^{\circ} 51'$ N., long. $78^{\circ} 22'$ E. between Gooty and Cuddapah, on the summit of a precipice, forming the southern wall of a fissure that clears a range of sandstone hills nearly at right angles from the summit to the base. The Pennaur river passes through this gap into the plains of Cuddapah.

The district of Gundikota was a Zeminduree under the Rajas of Bijanuggur. About 1589 A. D. according to Ferishta, the fort was held by Nursing Raj, nephew of Ram Raj of Bijanuggur, and taken from him by Mahomed Kuli Kuttub Shah, Sultan of Golcondah, after a long siege. It was placed under Mir Jumlah, and subsequently annexed to Cuddapah under Neknam Khan. It was given up to Hyder Ali when he overran the Balaghat, and ceded to the English by the Nizam in 1800. The fort crowning the heights, was originally built by one of the Rayels of Bijanuggur (Kishen Rayel), and contained a temple of great sanctity, dedicated to Mahdu, a minor incarnation of Vishnu, to whose shrine, we are informed by Ferishta, 100,000 Hindus of Bijanuggur used to make an annual pilgrimage, and offer gifts of great value. When the place was taken by the Mahomedans, the idol, fearful of desecration, is said to have disappeared miraculously from the sanctuary; an aperture in the solid masonry of the wall is shown to the present day by which it effected its escape. The temple has a handsome gateway tower, of carved sandstone, and the inner buildings contain some elegant sculpture; among them is a curious bas-relief which exhibits the

appearance of a cow or an elephant according to the position of the spectator, and placed so as to conceal either half of the sculpture. Mir Jumlah who commanded the garrison under the Golcondah prince, greatly enlarged and improved the old Hindu fort, so much so as to excite the jealousy of his sovereign who recalled him. Hyder subsequently made a few improvements. It has four approaches, the first and second from the ruined tombs of Allahabad near the river-bed at the foot of the cliffs by two steep zigzag paths up the rock, the third by the hills and table land from Chittywarapilly, barely practicable for horses, and the fourth by an easy ascent from Jummulmudgoo on the east. The Chukar minaret and mosque inside the fort are handsome buildings: the latter is surrounded by a Serai for travellers. The table land on the summit of the hills is a wild looking tract, producing crops of turmeric, but generally overgrown with rank grass and low jungle. Among the trees and shrubs are the tamarind (*Tamarindus Indica*) the banian (*Ficus Indica*), the custard apple (*Anona Squamosa*), the bér (*Zizyphus jujuba*), the caray pullum (*Weberd Tetrandu*), a thorn bearing a small yellow sub-acid fruit eaten by the Natives, the jamum (*Calyptanthus Caryophylli folia*), the asti, a yellow bitter fruit much eaten by the Brahmins, the turwer, (*Cassia Auriculata*) and two varieties of euphorbia.

The population of Gundicota amounts to about 1,500, chiefly Hindus. There are about 200 Mussulmans and a few Beders. Lingun and Telinghi Buljars are numerous.

Harponhully.

It is said that Harponhully was founded by two Beder brothers, named Dauria and Rungdia, who settled at a place to the north of the present town named Yakli, during the reign of Kishen Rayel of Bijanuggur. They spent their time in the amusements of the chase. One day the dogs started a hare of uncommon size and beauty, which instead of running away, turned upon, and killed one of the dogs. Dauria astonished at the hare's courage ascribed it to some peculiarly auspicious quality of the ground, and erected a fort and palace on the spot the hare was started from, also a temple to Hunnoomaun on the place where the dog was killed. In course of time the new settlement grew populous, and was called Harponhully. Dauria subsequently married a daughter of the Poligar chief of Chit-

tledroog, with whom he received the talook of the Chinghidroog as a dower, the revenue of which is said to have then amounted to 6,000 Savanur Pagodas.

Harponhully contains now about 2,000 houses, principally of Bolders, Linga Buljars, about 400 Mussulman houses, and 200 of Mahda Brahmins, a few Jains and native painters and sculptors.

Hirrihal.

A small walled town, with a dry ditch and glacis, 12 miles travelling distance, S. W. from Bellary on the Chittledroog road, in the plain at the western termination of a small pass. A rivulet which rises a little to the N. W. in the copper mountain range, and runs to the Beddavati or Hûggri river, washes the eastern face of the town. It comprizes about 1,200 houses, principally inhabited by Hindus of the Lingayet sect speaking Canarese, a few Mussulmans, Brahmins and Joghces, a sect of Jains, who carry on the manufacture of brassware to a large extent: Telinghi is spoken, but Canarese is the prevailing language.

The rock seen in the immediate vicinity of the plain is a granitoid gneiss. The soil is the reddish brown Mussub.

This place was formerly under the Poligars of Raidroog, was taken by Morari Row of Gooty, but shortly afterwards retaken after a siege of three months by one of Hyder's Generals.

Honoor.

A village in the Raidroog talook of the Bellary Collectorate, on the military road from Bellary to Bangalore: travelling distance from Madras 316 miles 7 furlongs, from Bellary 20 miles 3 furlongs. It is situated on the right bank of the Hûggri river, and has a Government bungalow for the accommodation of travellers. Near this place are some singular *dunes*, formed by the sand raised from the wide bed of the Hûggri, by the strong westerly winds that usually prevail. Their progress is of course easterly and, like those on the southern coast of France, renders barren the country immediately to the leeward of them. Boodoorti, a village about 3 koss hence, was totally overwhelmed 10 or 12 years ago by one of these moving hills. Their

progress has been obstructed of late years by the villagers permitting the wild shrubs and trees in their rear to grow up, instead of cutting them which they were in the habit of doing.

Hulhully

Is a walled village on the northern frontier of the Ceded districts, situated on the right bank of the Tumboodra, 32 miles travelling distance N. W. from Bellary, on the present post road from Madras to Bombay. Here is one of the principal ferries crossing the river to Mustoor, in the Nizam's dominions. It is about 547 yards from bank to bank. The river is generally unfavorable from the beginning of July to February. The bed is sandy, the right bank sloping, the left of clay and salt, is steep and high. During the rains two basket boats constantly ply, one belonging to the Nizam, the other to the Company. The current is very rapid, and carries the boats a considerable distance down the stream. A small toll is levied on passengers. Mustoor, a post office station, is on the opposite bank in the Nizam's dominions and in the district of the Gungawati chief Bhikker Miyan. Hulhully contains two pagodas and about 60 houses, inhabited principally by Linga Buljars speaking Canarese and a little Telinghi, employed in cultivation; it depends on the river for the supply of water.

Kenchengode.

The remnants of a large Hindu town on the S. bank of the Tumboodra, 33 miles direct distance N. by W. from Bellary. Near it is the neat burial place of the Pumpawati Goudha, the ruins of the stone fort, palace, and gardens: the latter containing a curious model of a labyrinth in stone, the pillars that supported the trellises of the grape vines are still to be seen, two mosques and two jungum maths. In the vicinity, there are several fine annicuts thrown across the river, by one of which the village lands are irrigated. It contains now about 120 houses inhabited by Hindus, and about 15 by Mussulmans. The gardens, palace, and the stone fort on the hill were erected by Kenchen Goudha, the founder of the place. He was originally a peasant of Kanul, who emigrated hither during the reign of Kishen Rayel Raj of Bijanuggur, by whose permission he cleared the jungle and settled with the privileges of Nat-goudi. He also founded Kan-

nia, which he called after his father and established 33 villages. His descendants, Buswan and Nagotampati Goudha, accompanied Ram Raj of Bijanuggur on an expedition against his rebellious brother at Adoni, and were rewarded for their services by the privileges of the Noubet, the Chan-war and the Chan. Kenchengode Siragupa and its dependencies were conferred upon them for ever, on condition of their presenting an annual nuzzer of 7,000 Rupees. Buswan after this assumed among his own people the title of Raja and amassed considerable treasure. He died after ruling 52 years, succeeded by his son Humpa Goudha, in whose time Musaud Khan, Subadar of Adoni, appropriated the revenue, leaving the Gourha the original rights of Nat-goudi, with an allowance of 10,000 Rupees for the maintenance of Sibundies, for the protection of that side of the river from the aggression of the hostile Poligars.

Kumply.

The capital of a Talook of the same name in the Ceded districts, on the S. bank of the Tumboodra, 30 miles travelling distance N. W. from Bellary, and 347 from Madras, formerly held by the Bellary Nairs under Bijanuggur. It contains many pagodas and mosques and nearly 2,000 houses, upwards of 300 of which are inhabited by Mussulmans, the rest by Hindus, principally Ling Bulars, occupied as shopkeepers and cultivators. The fort is washed by the Tumboodra, and is separated from the town by a piece of ground irrigated by aqueducts from the annicuts, and in a state of the highest cultivation. The fort is in a ruinous state, its position is naturally strong with the river in front, and the wet cultivated ground intersected by the aqueducts in its rear. It was built by one of the Nairs of Bellary feudatory to Bijanuggur, and was besieged by Hanampa Nair of Bellary without success, after he had defeated the Bijanuggur Raja in the plain of Kumply. The river is crossed by a ferry to the opposite village of Chinna Juntakul in the Nizam's dominions; four basket boats—two belonging to the Company, and two to the Nizam—ply during the rainy season, generally from June to the end of January; during the rest of the year, the stream is fordable. A small toll is levied on passengers. There are five of these ferries across the Tumboodra in this talook, viz., at Bellagodehal, Hulhully, Bijanuggur and Kalagutta. At Bijanuggur there are four boats

belonging to the Company, two at Kumply, and at the rest one each. The boats are manned each by four ambikars or boatmen with long poles and short paddles, the latter of which are employed when the water is too deep for the former to be useful. The frames of the boats are made of split bamboos in the shape of a shallow basin or deep skimming dish, and are covered with from eight to twelve tanned ox hides doubled and sewn with leather thongs. There is a false wicker bottom to protect the passengers and the merchandise from the water that accumulates in small quantities at the bottom of the boat, generally made from the stem of the cotton plant or the hebbi. The coracles up the Kistna are not so good as those on the Tumboodra, the frames being of the Hulguli wood, which is inferior to the bamboo for this purpose. The boats vary in price from 20 to 40 Rupees according to their size, which is from 6 to 12 feet in diameter and about 3 or 4 deep. They are made almost exactly like those described and seen by Herodotus on the river Euphrates.

Gneiss is the predominating rock about Kumply, alternating with mica, hornblende and chlorite schists, and not unfrequently veined with a beautiful light green and red rock, consisting principally of felspar and actynolites.

Kurgode.

Formerly a large town, 15 miles direct distance N. N. W. from Bellary. It now contains only about 590 houses and several temples; among the latter is a large pagoda dedicated to Siva, containing a colossal representation of the Bull Nandi, 12 feet high, cut from a single block of granite. In one of the small temples is a large slab of a dark talcose stone, containing an ancient inscription in Hala Canarese.

Raidroog.

This fortress was founded about A. D. 1371 by Bhopat Row, who was entrusted with the management of this part of the country by Hurri Chund Rayel of Bijanuggur; it was originally of mud. In Kishen Rayel's time it was given to the Beder chief Janjab Naigue, about A. D. 1517, who built the present fort and palace on the top of the hills. It remained under the Beder Poligars, tributary to Bijanuggur, till the fall of the latter place in 1564, when it became tributary to the Mahomedan sovereigns of Bijapur, paying at

first an annual *pésheush* of 12,000 Rupees to the Bijapur leader Doulet Khan Timir-al-Omra. It subsequently was governed by the Telinghi Raja of the Buljar caste. The town below the hill was founded by Timmapa Nair. The Dewan Vencatapaty succeeded Timmapa. He died leaving three sons, Kubli Nair, Gopal Raj, and Timmapa Nair, and two daughters, viz. Nikaji Amma, and Rudherma. Kubli succeeded, but was assassinated by his brother Gopal, who died through remorse and was shortly afterwards succeeded by the youngest brother Timmapa Nair. This chief having convicted his Parbati or Secretary of embezzlement threw him into prison. On this the Parbati wrote secretly to Hyder Ali, inviting him to come and take the place. Hyder accordingly sent a large army for this purpose under Jehan Khan and Makhdum Sahib who took the chief and his family prisoners to Seringapatam, but afterwards reinstated him. On Timmapa's death, which happened some years subsequent, Raidroog was entrusted to Vencatpati Nair, son of the late chief's brother Gopal Row. This chief having offended Tippoo, by not attending to his summons when the latter marched against Adoni, was thrown into prison at Bangalore, and on Lord Cornwallis storming the place in 1791, was put to death by the Sultan's orders. Tippoo also caused many of the fortifications on the hill of Raidroog to be demolished. After the fall of Seringapatam in 1799, Raj Gopal Nair, nephew of the preceding chief Timmapa, and son of Nikaja Amma, who had been imprisoned, on being released repaired to Raidroog where he was well received by the inhabitants and regarded as their chief; but a month had scarcely elapsed when Mahomed Amin Khan, who had been sent by the Nizam for the settlement of this part of the Balughat, took Raj Gopal with him to Hyderabad, in order that his claims might be investigated. In the interim the country was ceded to the British, and a pension, by some accounts of 30 pagodas per mensem, granted to the widow of Timmapa who was living at Raidroog in 1837.

Raidroog is now the capital of a talook of the same name: it consists of a citadel and a lower fort, inclosing a small town regularly laid out in streets at the foot of the lofty granite hill on which the old citadel stands. According to the old inhabitants it formerly numbered 3,000 houses, but there are at present 700 inhabited, principally by Kunbis, Beders, Dhungars, a few Mahrattas and about 500 Mussalmans. According to the same authority the revenue of Raidroog in the Peltig's time amounted to 5 or 6 lacs of Rupees; during

Sir Thomas Munro's administration to $2\frac{1}{2}$ and at present about $1\frac{1}{4}$ lacs. This falling off is, they say, in part attributable to the scarcity in 1833 and subsequent droughts.

The ascent to the citadel from the town of Raidroog has been rendered comparatively easy, by a broad ledge cut and blasted from the face of the rock at immense labour, and protected outwardly by a low wall: it leads through four or five gateways of solid masonry and a double line of fortification in a dilapidated state. More than half way are seen the remains of the palace of the Raidroog chieftain, in a crescent-like hollow of the hill, constructed by the Beder Poligar Janjab Naigue, about A. D. 1517. Two Hindoo temples, the Nagara Khanch on an isolated columnar mass of granite, magazines, wells, and the remains of the old palace gardens, 60 or 70 huts in this vicinity are still inhabited by a few Beders and Brahmins. There is another and smaller road leading to the citadel from the tank to the N. E. of the Redguh. The rock on which it is situated, rises to the apparent height of 1,000 feet, commanding all the accessible hills in its vicinity, and forms the S. E. extremity of a wild and rocky range extending from Gundikota to the plain of Chittledroog. A few tigers and numerous leopards, wolves and hyenas, infest the jungly recesses of these rocks.

The rock found in the plain is generally gneiss, imbedding hematite and large nests of foliated mica. The higher elevations are almost invariably of granite. The fortresses of Malacalum and Unchingy-droog are situated in the same range a little to the N. W.

Raidroog is on the high road from Bellary to Chittledroog; the distance from the former is 34 S. W. and 48 N. E. from the latter; Lat. $14^{\circ} 10'$ N., Long. $76^{\circ} 56'$ E.

Rayelcherroo.

A small village and stone fort, with a ditch and bastions built, it is said, by Kistna Rayel. It is 14 miles 3 furlongs east from Gooty, and 247 miles 5 furlongs N. W. from Madras. Near this place, about $1\frac{1}{2}$ mile S. W. of the fort, lies a hill, from which Tip-poo used to procure flints for the use of his army. The base of the hill contains a limestone of various hues of grey, yellow, green, and pink, capped by a sandstone conglomerate in tabular masses. A little

below the summit, lie the excavations where the flint is found in rugged fragments often incrustated with a light yellowish brown ochreous matter, varying from the flint in hardness to a friable powdery paste. It occurs in alternate contorted laminæ with the chert, forming an elegant species of jasper. The flints are cherty, more brittle, and much less valued by the Natives than those imported from Europe. Cups and vases are hollowed out from the limestone by a Native of the village. Varieties might be selected for purposes of lithography. The hill whence the limestone for the vases is procured, lies about 8 miles south of the fort, near the village of Yengunapully; it is an insulated elevation on the bank of a sandstone range running towards Annantipur. A little to the west of Raycheheroo, an interesting tract of country presents itself to the geologist, viz., the meeting of the granitic boundary with that of the limestone and sandstone.

Tadputri.

A town on the right bank of the Pennaur river, 231 miles travelling distance, N. W. from Madras. Here are two handsome temples dedicated to Chintal Raya and Ramiswara, elaborately decorated with sculptures representing the adventures of Krishna Rama and other mythological events. Among the bas-reliefs is a figure holding a Grecian bow, rarely seen in Hindu sculptures. There is a bungalow and tappal station here. An argillaceous pot-stone is found at Mus-simecottah and Reddadoor near this place, and cut by a Native, to represent the avatars of Vishnu, and other figures of the Hindu Pantheon. This stone is also used by the natives to grind the sandalwood which they apply as tikas to their foreheads, &c. The population consists of about 4,000 Hindus and 2,000 Mussulmans, employed principally in trade and weaving turbans, &c. The language prevailing among the Hindus is Telinghi.

Tekkuloota.

Formerly the capital of a talook given by the Beejanuggur sovereign to the first Nair Poligar of Bellary, but now included in the Bellary talook. It fell into the hands of the Mahomedan conquerors of the Deccan in the sixteenth century, was taken by Hyder when he overran the Balaghat, and ceded by the Nizam to the British in 1800. Direct distance N. from Bellary 28 miles. There is a watch tower on

one of the hills, and the remains of an old stone-fort built by the Poligars here; also one in better condition, constructed by order of Hyder, and an old temple to Iswara containing an inscription on stone, in the Hala Canarese character. According to the inhabitants, it now comprises about 440 houses of Hindus, and about 40 of Musulmans.

Wullavapur.

A small village in the talook of Oovenhudgully, travelling distance from Madras 367 miles 5 furlongs; from Bellary about 51 miles. It is pleasantly situated on the south bank of the Tumboodra, the waters of which are expanded into a lake-like sheet, extending beyond Bala-hoonsy, by the confining influence of a large annicut, one of those great and useful works executed by the Hindu Rajas of Beejanuggur. That part of the river crossed by the annicut is apparently about a mile in breadth. Timber floated and rafted down from the forests in Mysore is here landed.

Ramanmully.

The hill of Ramanmully, or Ramandroog, 3,100 feet above the level of the sea, is one of the most elevated of the Sundoor range of hills, and bounds the valley of Sundoor on the west. Its direct distance due west from Bellary is 30 miles. The road from the village of Yet-tanhutty leads through the Sundoor Pass, the first three or four miles being beautifully wild; the valley now opens out, and through it the road conducts to the village Bahvihully at the bottom of the hill. The approach to the hill from this village was formerly through a low scrubby jungle with a pretty tolerable road; and though on ascending the hill it got very steep and winding, it was on the whole of sufficiently easy access for foot travelling and horses; but there is now a very good cart road, the line of which was marked out by Lieutenant Walker, of the Madras Engineers; and the work is executed principally by private contribution, according to instructions left by him for the formation of the road. It is carried up the side of the hill, by an easy ascent, and enters the platform near the centre. The platform is of limited extent, being but one and a quarter mile in length, and varying in breadth from half to three quar-

ters of a mile. The general aspect of the surface is undulating, having its higher edge towards the east and sloping gradually towards the west, where in many places it falls precipitously to the plains, and from observations made, the general elevation of the western edge is lower by 150 feet than the eastern. The slopes of the hill on both faces are covered with junglewood of no great size, intersected with numerous wooded ravines. The hill runs nearly north and by east, and south and by west. On proceeding south the ridge suddenly contracts, and on the west face a large basin is formed having a very picturesque appearance, at the bottom of which there is a small tank; on progressing, the ridge gradually expands with a slight ascent, giving a considerable extent of rugged stony surface; the slopes both east and west producing a jungly vegetation and at parts clumps of bamboos. There are springs on the sides of this hill.

The hill of Ramanmully appears to have been a Droog, or fortified stronghold, in former times, as the various approaches to it have still the remains of barricades and looped hole parapets, with the ruins of walls at the less accessible parts. Immediately opposite the house built by General Anderson, are several walled excavations, which are described as the ruins of granaries; and there are to be seen in many places of the hill, though now in ruins, foundations of clumps of oblong buildings, generally eight in a clump, which are supposed to have been the habitations of the people of the plains who sought protection in Ramanmully during troublous times.

The view towards the west and north embraces extensive plains, which in their seasons, are covered with abundant crops, dotted with many villages and tanks, and the meanderings of the Tumboodra seen in the distance. That to the east and south looks into the valley of Sundoor, and has a truly picturesque appearance.

There are now several good bungalows erected on the Droog, the property of officers, Civil and Military, in the Ceded Districts, besides several temporary buildings for residence during the hot season; and many eligible sites are still available on the platform and in its immediate vicinity. A temporary barrack for sick European soldiers was erected in 1849, which, except during the monsoon, has been ever since occupied by drafts from the hospitals at Bollary. The result has been so satisfactory, that a permanent barrack and hospital, capable of containing 70 men, are now being constructed under the sanction of Government. Two good carriage roads run along the whole plat-

form, and many excellent bridle roads have been cut along the sides and slopes of the hills towards the north and south, giving beautiful views of the low country, and affording an extent of upwards of 12 miles for horse exercise. These roads, which have been made by private contribution, are capable of being extended very considerably; and there is every facility, at a very trifling expense, of adapting them for carriages:

The rock of which the hill is formed is hornblende, some of the detached pieces of which were found to affect the magnet. On the east or high edge of the hill, the rock is seen projecting bare and rugged; it is also broken and disintegrated on its western edge, and the lateritious earth accumulated on it from the decomposition of the hornblende, is sufficiently abundant to admit of cultivation there. On the northern end of the hill, near the Hospettah road, the laterite is most plentiful, it almost conceals the underlying rock which is only here and there seen projecting. On the western face of the hill the hornblende is stratified, and lower down schistose; the latter contains a sufficient quantity of iron to render it valuable in the arts, and the villagers quarry it there and extract the ore. Large slabs of two kinds of slate clay, one a brownish red, the other ash grey, are observed at the eastern barrier and in other parts of the hill, where they have been employed for building purposes; but these rocks could no where be discovered in any situation, and the Natives likewise asserted, that they were not to be found even in the neighbourhood. It is possible that the place they were brought from may now be concealed by jungle; both of these clay slates very readily absorb moisture, and are far from being good materials for building houses, as in a climate such as that on the hill, where the fogs and sleety winds prevail for some months of the year, the walls of houses built of such stones would always be damp.

The soil at the lower part of the platform is considered well adapted for the cultivation of all European vegetables during the season. The trees of any size consist of tamarind, banian, bér, and mango, with a variety of other smaller trees, and during the rains the hill is covered with a profusion of wild flowers and creepers. Gardens have been made by some of the owners of the houses, on the platform near the tank, for the convenience of an abundant supply of water; and the produce has been highly encouraging in almost every description of European vegetables. Fruit trees, shrubs and flowers, grow luxuriant-

ly. There are gardens also near most of the bungalows; the rains from June to October afford these an abundant supply for all purposes of irrigation; but during the dry season, the water has to be brought from the springs. Of the fruit trees, the graft mango and peach give promise of arriving at great perfection. Shrubs and flowers are very abundant; among them, heliotropes, verbenas, carnations, dahlias, and many others, flourish in great beauty. The sweetbriar has been known to blossom, and roses are in profusion.

Water is furnished from springs on the western face of the hill and from the small tanks in the valley. The springs are, more properly, small trickling streams about 500 feet down the hill, but which if traced to their source, might possibly be found at a much higher level.

The principal springs are respectively called "the generals'," "strangers'," and "the sappers'" spring; and three others beside. There is also a tank, or rather a large well, supplied by springs: so that from all these sources an abundant supply of excellent water is procurable.

Mineral springs have been discovered in several places. The principal Chalybeate spring was discovered by Major Henderson of the Engineers, who sent samples of the water to be tested. The analysis was made by the Professor of Chemistry at Madras, the result being as follows:

The specific gravity of the water is 0.9978. An imperial gallon contains $16\frac{3}{4}$ grains of insoluble salts, &c., and 5.97 gallons contain 100 grains in the following per centage:

Chloride of Sodium.....	22.38
Carbonate of Soda.....	7.56
———— of Lime.....	24.04
———— of Iron.....	6.38
Alumina.....	8.00
Silicic Acid.....	12.46
Organic matter.....	19.18
	<hr/>
	100.00

with a trace of magnesia and potash.

In order to form any judgment of the value of this water as a carbonated Chalybeate, it is necessary to compare its constitution with that of other well known waters. Dr. Turner, Mr. Fownes and others, have, in their works on Chemistry, given us some means of comparison.

Thus we find in those waters termed carbonated, various amounts of free carbonic acid, independent of that found in combination, as well as various amounts of iron; these again are found in company with such a great variety of salts in such various proportions, that it becomes a question of almost insuperable difficulty to institute a very rigid comparison. We find carbonic acid in various qualities in those waters called carbonated, in the instances of Pulloa and Cheltenham waters, the amount is very similar to that found in the Ramandroog spring. There is no iron in the first of these springs, but in that of Cheltenham more than is present in the water analysed. Pyrmont contains a much larger quantity of carbonic acid, though but a very little more iron than is found in the water of the Ramandroog spring. The more important ingredients may indeed be selected and compared, but it would be rash to draw any positive inference as to medicinal value from such comparison, for it has been found that the presence or absence of ingredients supposed to be of little value has materially altered the effects of them. These facts are well known to those who manufacture artificial mineral waters.

Analysis has shown the constitution of the Ramandroog water: it contains, though not in any large amount, both carbonic acid and iron, and it has also shown that it does not contain any deleterious substance; neither does it contain alumina or lime in any quantities that may be injurious, the first being present in little more than a grain in a gallon, while the latter in the form of carbonate does scarcely exceed four grains in the gallon. The consideration of these facts renders it evident, that the Ramandroog spring is well worthy the attention of those who reside in its vicinity; to what extent it may be beneficial, experience only can pronounce. There seems, however, to be no cause why it should not be quite as much so as to a great many other springs which in Europe are in great repute.

The general effect produced by the climate of Ramanmully has been pronounced by all Europeans to be agreeable to the feelings, and most salubrious, giving elasticity and health to the constitution. The seasons partake of the ordinary divisions in this part of the country; but while the plains are burned up with the hot land winds, no such thing is experienced here.

The winds are occasionally hot during the hot season, but never uncomfortably so; while even to the Natives the hot winds of the plains are unendurable. In the months of March, April and May, while at

Bellary, the heat is both constant and oppressive, with the thermometer ranging from 96° to 100° in the shade, it has never been observed to rise higher than 84° in the houses at Ramanmully during the hottest part of the season, which comprehends the latter end of April and the earlier parts of May.

The ordinary heat in these months is about 84° at the maximum in a house, rising a few degrees higher in a tent, and the heat is only for a few hours in the day. In that portion of the year, the mornings and evenings are always cool, and even when the temperature rises higher than is usual, no inconvenience is experienced, as it is generally attended by a delightfully cool breeze. Towards evening, in the early part of May, occasional lulls are observed; but they do not last long. In May, a blanket at night, when the houses and tents are open, is a necessary addition to comfort; while in the low country, all covering during the night, is not only useless, but burdensome.

The rains commence in June, the latter part of May being cloudy and threatening, with occasional heavy showers and squalls.

From the direction of the range from north to south, the watery clouds of the monsoon become intercepted; consequently the winds are more violent and the rains more abundant, than in the plains below. But the soil on the hill rapidly absorbs water, and no rain can lodge, as the slope of the platform allows the surplus water to run off rapidly. Being within the influence of the two monsoons, no warm weather intervenes between the two.

The rains were more abundant in former times than now, and it was formerly the custom to collect three months' firewood to last through the rainy season of the south-west.

Of late years, however, the quantity of rain has greatly diminished, the season of which is not very apparent farther than that the platform was formerly clothed with trees, which only now presents a few stunted stumps. During the S. W. monsoon the rains are very constant, but not in great quantity, accompanied with strong winds which, towards the end of June and July, become strong gales; it is then sometimes necessary to load the house roofs with heavy billets of wood. The N. E. monsoon is not nearly so boisterous as the S. W., but the falls of rain are more heavy with alternate showers and sunshine. The whole quantity that falls is much greater than in the plains, and occasionally there is no break in the weather for several days. From the cold of the season, the Natives use fires for warmth,

which they continue till the end of the year. At this period dense fogs are constant in the morning, but generally disperse between eight and nine o'clock. The cold weather is at this season bracing, fires being required; but the range of the thermometer has not been daily observed.

The winds in October are variable, but in November they set in from the N. E., and they prevail until February, when they become again variable with occasional squalls, and this state continues until the early part of May, when the commencement of the monsoon on the western coast is felt, then the winds come steadily round to the west.

The following abstract will show the difference of temperature between Bellary and Ramandroog during each month of the year. The observations were taken simultaneously at 6 A. M.—2 P. M. (maximum heat)—and 6 P. M.

		6 A. M.	2 P. M.	6 P. M.
December.	{ Bellary.	63	85	76
(last half)	{ Ramandroog.	62	88	67
January.	{ Bellary.	65	84	81
	{ Ramandroog.	61	73	71
February.	{ Bellary.	65	90	85
	{ Ramandroog.	62	76	71
March.	{ Bellary.	76	95	90
	{ Ramandroog.	72	84	82
April.	{ Bellary.	80	100	89
	{ Ramandroog.	74	87	80
May.	{ Bellary.	82	97	93
	{ Ramandroog.	75	83	82
June.	{ Bellary.	78	93	88
(till the 8th.)	{ Ramandroog.	70	80	79

Slight febrile attacks occur during the hot weather; also occasional cases of dysentery, but these latter are solely the consequence of excessive labour, and never appear as endemic disease; the people take no medicine, and rest alone is required to restore them. The villages of the valley of Sundoor on the S. E., and all the villages on the tract of the hill Naglapoor, Horspett, &c., almost every year suffer from cholera; but it has never been known to occur on the platform of Ramanmully among the Native inhabitants as an endemic. They practise inoculation, but almost all have the small-pox; when it occurs as an epidemic, it is mild.

The Native population of the Ramanmully hills are of the Béder

tribe : a semi-civilised race of mountaineers, supposed by some to have been the aborigines of the Carnatic. They are found also in the Mysore hills, and the name is not unknown further south. By some they have been confounded with the Ramoosies and Bheels, but they are a different race. Their numbers are but few.

CUDDAPAH.

ONE of the two great Collectorates (Bellary the other,) into which the "Ceded Districts" are divided.* It lies between Lat. $13^{\circ} 5'$ and $16^{\circ} 20'$, Long. $77^{\circ} 48'$ and $79^{\circ} 50'$. It is bounded on the north by part of the Kurnool country, and the district of Guntoor, on the south by Mysore and North Arcot, on the west by Bellary and Kurnool, and on the east by Nellore and part of North Arcot.

CUDDAPAH, FUSLY 1260.* Area = 12,970 Square Miles.

Talooks.	Cushah or principal station.	Number of Villages.	Population.	Extent of Land cultivated.			Land Revenue.	Number of Puthlis.	Extra sources of Revenue.
1	2	3	4	Wet & Garden.	Dry.	Total.	8	9	10
				Acres.	Acres.	Acres.	Rupces.		
1 Jummulnadogoo.	Jummulnadogoo.	124	89,275	7,751	1,13,950	1,21,701	1,83,274	8,215	Abkarry 1,18,321
2 Doovoor.	Poddistoor.	79	82,438	6,331	80,825	87,656	1,64,626	8,162	Petty Licenses. . . 14,583
3 Coilgoontla	Coilgoontla	100	89,605	4,470	1,12,252	1,16,722	2,03,974	8,715	Moturpha 1,52,057
4 Chirwail	Chirwail	136	1,12,590	17,668	24,980	42,648	1,72,838	13,009	Stamps 27,587
5 Sidhout	Sidhout	76	59,172	9,832	18,265	28,097	1,12,150	8,121	Total 3,13,048
6 Chennai	Town of Cuddapah.	69	82,301	8,519	42,849	51,368	1,13,340	8,025	POPULATION.
7 Camalapor	Camalapor	65	57,866	8,180	66,895	75,075	1,34,909	6,332	Hindoos. 13,55,804
8 Goorumcondah	Voilpand	110	1,27,187	12,530	69,757	82,287	1,43,199	13,285	Mahomedans } 95,681
9 Muddenpully	Muddenpully	92	1,01,678	17,224	88,913	1,06,137	1,51,845	8,012	and others not } 436
10 Poolivendala	Cadri	218	1,72,216	18,605	2,20,741	2,39,346	2,41,233	15,292	Hindoos
11 Royachoty	Royachoty	106	1,10,142	12,661	1,05,100	1,17,761	1,41,309	15,292	Christians 436
12 Cumbum	Cumbum	172	93,993	8,140	68,854	76,994	1,33,322	11,703	
13 Doopand	Markapor	318	1,09,019	10,090	87,692	97,782	1,04,295	8,628	
14 Budwail	Budwail	100	70,072	9,136	46,917	56,053	1,08,029		
Total . . . . .	.....	1,765	13,57,554	1,51,637	11,47,990	12,99,627	21,13,343	1,42,687	
Permanently settled Estates . . . . .	.....	68	94,367				76,198		
		1,833	14,51,921				21,89,541		

* Fusly 1260 began July 12th, 1850.

* Called "Ceded" because Ceded by Tippoo.

Aspect.

The mountains in this district form an uninterrupted chain of great extent, consisting of numerous parallel and continuous ridges, which rise abruptly from the plains, traverse the whole length of the district, and constitute part of the eastern ghauts. The *western* ridges of this elevated chain, in their southerly course come down to Sidhout, nine miles east of Cuddapah, where the river Pennaur intersects them. The line is however continued in a south-westerly direction to Bakerpett, ten miles from Cuddapah, where they separate into two ranges, one running south and the other west; the latter becomes identified with another but lower and more westerly range, which taking its rise near the river Tumbodra, runs south to Banganpilly, then S. W. to Gooty, then S. E. to Gundicotta where it is intersected by a remarkable breach, the sides of which are elevated upwards of 200 feet from the base, and through which the Pennaur river flows. About 34 miles from Cuddapah the range becomes connected with the *eastern* ghauts; hence the plain of Cuddapah is encircled by a chain of mountains, which greatly increases the heat of its climate. The distant hills on the west do not seriously affect it, but those on the north-east and south, being within from three to six miles, have the most injurious influence. Within a mile or two of their bases, the old and new towns of Cuddapah, and three miles further west the cantonment, are enclosed within a mountainous amphitheatre, varying in elevation from 1,000 to 1,500 feet, the extremities of the are being about 12 miles apart. The ranges of hills towards the south differ from those to the east in physical characters, not only in their isolation, but also by their pyramidal form, their summits terminating in sharp and precipitous cliffs, or abruptly truncated; while the other ranges are long ridges, some hog-backed and ribbed, with the sides deeply excavated by mountain torrents, the bases of which form an unbroken abutment of perpendicular rocks, from 50 to 60 feet in height, presenting the appearance of gigantic walls artificially constructed. The jungle on the hills near Cuddapah is constantly on fire in the hot weather, and may be seen bursting into flame at intervals during the sultry night.

Rivers.

The chief river in the Cuddapah district is the Pennaur, which rising in the mountains of Nundidroog, and holding a northerly course as far as Gooty, enters the district near Tallapodator, on the Bellary road, and after many windings, flows to Chinnoor, and passes by Sidhout within nine miles of Cudda-

pah, from whence taking an easterly course it passes close to Nellore and enters the sea, 17 miles N. E. of that town. While within the district of Cuddapah, it receives at Camalapoor the Coond river, which has its source in the mountains on the north-east; about one mile from this village, and close to Appiapully, the Pennaur is also joined by the Papugny, coming from the southward. This last river arises in the hills east of Muddenpully, and emerges from them at Vaimpully, 20 miles W. S. W. of Cuddapah.

Two nullahs having their sources in the hills to the south-west of Cuddapah run in a north-easterly direction. The more western of them, the Ralawaukah, winds immediately in front of the cantonment of Cuddapah, where it is from 20 to 30 yards in breadth, but is never full unless in very heavy and continued rains, when its depth is between three and four feet; its rise and fall, however, are very rapid, and in dry weather it is merely a chain of small pools. The other nullah, called the Boga river, is much larger, and sweeps immediately along the west of the town, which it supplies with water. A little to the north, both the nullahs converge, and ultimately uniting, discharge themselves into the Pennaur, four miles north of Cuddapah. Proceeding east, the next rivers which discharge their waters into the Pennaur are the Suggleair and the Cheyair. The districts south of the Pennaur are drained by the Papugny and the Cheyair rivers, and their tributaries; and the valley of Cuddapah by the two mountain streams above described; while the country to the north is drained by the Coond and Suggleair with their respective streams. With the exception of the Pennaur, their beds are generally sandy, with low banks. The Pennaur however, which runs through a soft soil, has banks in some places upwards of 16 feet in depth; the current, owing to the country being nearly a perfect level, seldom exceeds two miles an hour, though the mountain streams are as usual rapid. The Pennaur at Chennoor is 1,000 yards broad. The Cheyair at Nundeloor is 1,200 yards. The Papugny at Appiapully is 800 yards wide.

In seasons of drought, which not unfrequently occur, some of these streams become rapidly dried up, when the vegetable and animal deposits in them are exposed to the intense rays of the sun, and prove a source of miasma, the origin and prevalence of epidemics in such seasons. In the hilly parts of the district, the banks of the streams which are fringed with low dense jungle, are composed of rocks and

detritus, but in the plains, they sweep along gardens and cultivated fields, numerous wells being excavated on their banks. Tanks abound in Cuddapah, in which fish are both few and bad, though highly valued by the inhabitants.

Well water throughout the district is strongly impregnated with the saline products of the soil, and these become more concentrated by rapid evaporation; in the hot weather the water is quite unfit for domestic uses. The Natives generally make use of river water; but though more free from saline impregnations, the latter in particular often holds in suspension a large proportion of earthy matter, and from being stagnant is moreover generally contaminated with various animal and vegetable matters in a state of decomposition. The Natives attribute many diseases to the quality of the water, and in this opinion they are neither altogether singular, nor perhaps far from the truth. Noxious exhalations, the existence of which are inferred from certain effects on the animal economy, are most prevalent from the end of June, to the end of January, because the extrinsic agents most influential in favoring the evolution of those emanations, in soils and situations capable of engendering them, are *then* most active in *this* district, namely intense heat, acting on a wet surface. Hence, from February to the end of May, malarious diseases are less frequent, from the atmosphere being dry and the whole country burned up. The probable sources of malaria, under the operation of heat and moisture, such as extensive and dense jungles on and around the hills, muddy and slimy beds of half filled tanks and wells, and marshy ground under wet cultivation, are numerous. The nature of the manure employed throughout the district, namely, green boughs of trees, is another source of disease, as is the preparation of indigo: the neighbourhood of such manufactories being unpleasant in the extreme, from the offensive smell of vegetable matter undergoing decomposition, and its noxious influence is still further propagated by its being used as manure. The saline nature of the soil also exerts an injurious effect on the nature of the poison; estuaries particularly within the tropics, are usually productive of the worst forms of malarious fevers.

Soil & Geology. The soil of the extensive plains to the west and north of the districts consists of a rich black cotton loam, but in the vicinity of the hills and in the valley of Cuddapah, it is overlaid with an alluvial deposit, the debris of the neighbouring rocks,

comminuted to an impalpable powder, rendering it light and sandy, and in some places it is intermixed with an adhesive reddish earth. The eastern and western ranges of mountains consist chiefly of gneiss, overlaid with sandstone and sionite; the beds being variously contorted and intersected with veins of greenstone. The principal rock in the southern ranges is granite with gneiss and mica slate, all more or less in a state of decomposition. In other parts the formation is sandstone, varying in its structure from a quartz rock to a conglomerate and loose grit, of various shades from white to deep red, and sometimes beautifully variegated, as in the vicinity of Sidhout. It usually rests on limestone of a deep blue color, containing iron pyrites, and veined with calcareous spar. In age it appears to assimilate more to the "old red sandstone" of England, than to the "new red" formation to which it has been compared, and as far as has been hitherto discovered, it is non-fossiliferous. The soil on the whole is generally very productive when a sufficient quantity of rain falls. Nodular limestone and potters' earth are plentiful throughout the district, and a species of coarse marble or limestone of a blue color, and which is easily cut, is abundant, and is used at Cuddapah for the flooring of houses. A coarse kind of purple clay slate is very common in Doopaud, and the hills north of that talook bordering on Paulnad, and the Kistna. In the valley of Cuddapah it is found in horizontal beds several feet below the surface, in a soft state; but on exposure to the air it becomes hard, and wells are generally faced with it. Soda is found in the form of an efflorescent carbonate, in a red ferruginous soil in the valleys, as well as about Cuddapah; it is used instead of soap by the Natives, and the *Dhobies* manufacture soap from it, by the addition of chunam and cocoanut oil, to the concentrated lye. The soft mass is placed in segments of cocoanut shells, and exposed to the sun till it hardens into a cake. Nitrate of potash, (Saltpetre) and the chloride of sodium, (common Salt) are also found in great abundance, both being intermixed with reddish soft earth incrusting the surface. These salts, particularly the latter, which is most abundant, are extracted by lixiviation and evaporation. Numerous pits for this purpose are seen excavated in several parts of the plains, surrounded with mounds of earth; the salt thus obtained is very dirty, and scarcely fit for culinary purposes till purified.

The diamond mines lie about seven miles N. E. of Diamond Mines. the town of Cuddapah, on both banks of the Pennaur river, which here washes the base of a range of hills expanding in

several directions. The perpendicular height of the highest range may be about 1,000 feet above the level of the country, which is not greatly elevated above the sea. They are said to have been worked for several hundred years, and occasionally diamonds of a considerable size have been found; these mines are surrounded by cultivated fields, and appear like heaps of stones and pits half filled with rubbish.

The gems are always found either in alluvial soil, or in rocks of the latest formation; in seeking them the gravel is washed and spread out, after which the diamonds, generally very small ones, are discovered by the sparkle. The ground is rented by the Collector to speculators, who work it on their own account; but when very large diamonds are found, which rarely happens, the Government claims one-third of the value. The diamond formation is just the same as at Banganpilly.

Iron is abundant in the hills, and lead and copper are occasionally found. Saltpetre abounds, and may be procured by a very simple process.

Agriculture. After the first showers in June, the ground is ploughed, preparatory to sowing both "dry" and "wet" grains. The manure used for the dry crops consist of ashes and sheep's dung; that of the oxen, owing to these animals being held sacred by Hindoos is reserved for fuel, and for plastering the walls and floors of houses, but the quantity of manure is everywhere insufficient. Between June and August, should the supply of water in the tanks be sufficient, the soil for "wet" cultivation having been previously ploughed and harrowed once or twice, is manured as is observed above with the green boughs of trees, which are imbedded in the soft earth, and the fields then laid under water; after decomposition has begun the water is drawn off, the grain is sown, and the fields are again laid under water, which is occasionally renewed as it becomes dried by evaporation until the crops are nearly ripe.

Vegetation, which commences after the first rains in June, or after occasional showers, often becomes again burned up by returning drought, before the setting in of the N. E. monsoon. In the hills, however, where the rains are more constant, the surface becomes covered with rank coarse grass, part of which is set fire to in February, and part preserved for thatching houses.

Vegetable Productions. The vegetable productions of Cuddapah are numerous. The extensive plains of black soil to the north-west, produce large crops of cotton, wheat and indigo. The talooks

which chiefly supply rice are Chitwail, Cumbum, Chinnoor, and Camalapoor. In the other parts of the district, dry grains, such as cholam, rāggi, &c., are principally cultivated. In the gardens about the town of Cuddapah, but principally in the Muddenpully talook, sugar-cane, tobacco, turmeric, and betel are grown. At Muddenpully, a very good kind of sugar-candy is manufactured, a large quantity of which is exported. It has been sold at Bangalore as China sugar-candy, to which it is equal, except in colour. All the usual kitchen garden vegetables, common to the country, are procurable. The climate however is unfavourable for the growth of European vegetables, owing to the intense heat of the meridian sun, and a deficiency of rain.

Though wood is scarce in the vicinity of Cuddapah, there are many large mango, peepul, and tamarind trees to be seen. The fruits most abundant are the mango, tamarind, plantain, water-melons in great variety, and pumpkins. In some gardens on the elevated platform of Muddenpully, the guava, lime, pomegranate, peach, apple, strawberry, grape, and citron are found, but may be considered as exotics. The cocoanut palm is seldom reared, nor is the common palmira often seen, the soil and climate not being adapted to them. Cotton is pretty generally cultivated throughout this district. Indigo is largely manufactured: it is known in the English market as "Kurpa," the Hindustani name for Cuddapah.

Wild Animals Wild animals are not numerous; those met with are the jackal, fox, hare, antelope, hog, and wolf; the two first only are found in the plains, in which no game except a few snipes, florikins, and rock pigeons are to be seen in the cold season; the others frequent the hills, together with a few red-legged partridges, jungle and spur fowl. Sometimes a stray tiger or leopard is heard of in the plains, but is soon destroyed by the inhabitants; both however abound in the jungles.

Climato. The most prominent characteristics of the climate are intense heat during the day, with oppressive closeness and stagnation of air at night. These two conditions of the atmosphere go far to explain its enervating influence on the European constitution. The temperature at the station of Cuddapah is not only one of the highest known, (the mean in the shade during the year being $81\frac{1}{2}^{\circ}$, the maximum 98° , and the minimum 65° ;) but the daily range within doors is very considerable, being from 15° to 20° , and the difference of the annual extremes 33° .

The year may be divided into three seasons, viz., the cool, the hot and dry, and the hot and humid. The cool season commences in October, and continues till February; about the end of October the north-east monsoon sets in, generally with thunder storms and vivid lightning preceeding a heavy fall of rain. About the end of November the monsoon generally ceases, but in some years it fails altogether. During this season the wind is steady from north-east, and the weather is pleasant, the whole country is under cultivation, and the luxuriance of the crops every where testifies the fertility of the soil. The mornings are cool, the thermometer in the open air at 5 o'clock A. M., being often as low as 60° , the mean temperature being 77° , the maximum 89, and the daily range from 15° to 20° . The atmosphere is particularly clear, and the nights cool; towards the middle of February the weather begins to get hot.

The crops in the valleys are all reaped and stocked in February, and in March the country begins to present an altered appearance; as the month advances, the wind blowing strongly from the east, becomes hot at mid-day, vegetation disappears, the grass becoming burned up, and the country at last resembles a dreary waste.

In April and May, the atmosphere glows intensely; and the rapidity of evaporation particularly in the latter month is shown by the state of the tanks, whose slimy beds become exposed to the rays of the scorching sun. In April the air is almost perfectly calm, interrupted only by occasional light uncertain airs during the day, which fail altogether at night, and the heat of the still atmosphere becomes increased by radiation from the neighbouring hills which form a screen intercepting ventilation. It is impossible to sleep comfortably within doors at this season, and even in the open air, the nights are often passed in a feverish and restless state; in May, the nights are likewise oppressive, though the regular hot winds set in from the westward in the beginning of that month, by which through the medium of wet tatties, the houses during the day can be made tolerably cool; still after sunset the winds fail altogether.

The south-east monsoon sets in early in June, several days before which the weather becomes close and oppressive, and the sensation of suffocating heat at night is almost insupportable, respiration becomes laborious, and the mind is dejected from the stagnant and condensed state of the atmosphere. At length flashes of lightning are seen, and loud distant peals of thunder are heard rolling on, increasing in fro-

quency as the rain commences, which continues to fall in torrents for some hours, cooling and refreshing the atmosphere. These visitations however are often very partial, and confined to the neighbouring hills, while the valleys are scorched with heat, and enveloped in clouds of dust, which being almost in an impalpable state, and driven along by the winds, penetrates the surface into every crevice. During this season a strong south-westerly wind blows all day, and as the rain is seldom sufficient to saturate the surface, the whole atmosphere is darkened with clouds of fine sand, which even closed doors and glass windows fail to exclude. At sunset the wind usually moderates and subsides into an oppressive calm, still more distressing from the humidity of the air.

From this description of the climate of Cuddapah, it may be inferred that it is not favorable to the European constitution.

Roads. The principal roads through Cuddapah are, one to Madras, a continuation of the Bellary road. It is one of the worst in the country, but is provided with good bungalows for travellers, at regular stages. It runs first east and by south to Wontimettah, and crosses the Cheyar river on the left bank of which at Nundaloor, is the third bungalow from Cuddapah. A new road is about to be made from Madras. It is in fact the new Bellary road as far as the top of the Damulcherry Pass, and then a branch takes off to Cuddapah. The road from Cuddapah to Bellary is planted on both sides with large trees, principally the peepul and neem, which afford a pleasant shade; but, as it runs chiefly through black cotton soil it is nearly impassable in heavy rains. The Hyderabad road, via the Moorcondah ghaut, scarcely deserves the name, it runs nearly due north from the cantonment. The Nellore road takes a due east direction, and is also very rocky and stony.

Cuddapah

Is 166 miles from Madras, and in Lat. $14^{\circ} 32'$ N., Long. $78^{\circ} 54'$ E., 507 feet above the level of the sea. It is situated on the banks of the Boga river.

Cuddapah was formerly a place of considerable consequence in the time of the Hindu Rajas of Becjanuggur; its immediate rulers were the chiefs of Chitwail. It was taken from the Hindus by Mahomud Kuli Kuttub Shah, the sovereign of Golcondah, A. D. 1589, who

according to Ferishta, broke the celebrated idol of the great temple and sacked the city. It was afterwards ruled by Affghan nobles under the Adil Shahi and Kuttub Shahi sovereigns of Bejapur and Goleondah. These Affghans made themselves independent after the fall of their sovereigns. The founder of the Mahomedan city of Cuddapah was a noble, named Neknam Khan, who accompanied the celebrated Mir Jumlah, (the Vizier of the Mahomedan king of Goleondah,) on his expedition into the Balaghat and Carnatic. He was left in charge of the Chinnoor talook, and annexed to his territory the lands and fortresses of Gundicota, Sidhout, Budwail, Cumbum, and Jummul-madoogoo, which were taken by conquest from the Poligars tributary to the Beejanuggur Rajas. He built the present city on the site of the encampment of Mir Jumlah's army. It was at first called Neknamabad, but subsequently took that of the ancient Hindu village adjoining, viz., Kurpah Koil.

Cuddapah was taken by Hyder Ali about 1779 A. D. He carried the Nuwab Halim Khan, with all his family captives to Seringapatam, leaving Cuddapah and its dependencies under the government of Mir Sahib. Halim Khan is supposed to have died a violent death at Seringapatam. His son-in-law, Syed Mahomed, who had escaped to Paugtoor, subsequently made an effort to regain his father-in-law's dominions, and took the forts of Cumbum and Budwail, but was defeated near Purmawella by Kummuruddin Khan; he escaped with a few horsemen to Paugtoor, whence he repaired to Hyderabad where he died. Cuddapah remained under the sway of Hyder and Tippoo, until the first siege of Seringapatam in 1792, when it fell to the Nizam. After the death of Tippoo, in 1799, it was ceded by the treaty of 1800 to the British, with the rest of the Balaghat Ceded Districts. The fort, which is in ruins, is principally of mud with round brick and stone towers; it incloses the ruins of the palace and out-buildings of the Affghan rulers of Cuddapah, now used as the Civil entcherry, treasury, jail, and post office. The treasury, formerly the Asar-i-Shereef or shrine, on which some relics of Mahomed were kept, a low minaretted building,—and the mosque in front of which spouted a Jet d'eau in the middle of a square fount, are in the best repair; few traces remain of the old palace: part of the site is occupied now by the jail. The principal fountain has been filled up, and the *Dewan Khanch** has been converted into an hospital. The present Post office was formerly

* Dewan's office.

the residence of the Pathan chief Mussad Ali Khan. The street leading from the principal gate to the Cutwall's choultry, was the scene of a dreadful murder, perpetrated in 1831 on the person of Mr. Macdonald of the Civil Service, by an enraged set of Mahomedan bigots. A tumult had arisen in the town, and he had proceeded there to quell it, when he was cut in pieces, as well as the guard of sepoy who accompanied him. The town of Cuddapah is populous and dirty; the houses generally of mud, and badly constructed, some are tiled, but the majority are thatched. The palace of the Nuwab is still to be seen as a mud fort close to the pettah: it is used as a cutcherry. Within the fort is the prison.

The cantonment of Cuddapah is bounded on the east by the small river which separates it from the town of Cuddapah, from which it is distant about three miles; on the west by an extensive and open plain stretching with little interruption to Gooty; on the north by the Bellary road, some cultivated ground, and a large tank; and on the south by a road on its left flank and by cultivated ground.

The formation around Cuddapah is an argillaceous limestone of a dark slate blue color imbedding iron pyrites. It occurs in strata nearly horizontal, and as far as observation has extended, is not fossiliferous. The hills in the neighbourhood are of sandstone, in some parts associated with conglomerates. At the base of the northern range washed by the Pennaur, about 6 miles from Cuddapah, are situated the celebrated diamond mines of Chinnoor, Oralumpully, and Condapetta. They have latterly proved an unprofitable speculation to the contractors, who used every means to propitiate the spirits that were supposed to guard the treasures of the earth, but in vain. Large accumulations of calcareous tufa, hematitic and pisiform iron ore, occur on the surface of the limestone in the plain surrounding Cuddapah. Springs are abundant, and the soil is fertile and well watered. Among the hills to the south of the town are two waterfalls situated in some picturesque scenery.

The barracks are two substantially built detached buildings, in a line with each other, built of brick and chunam, and tiled. The soil on which they stand is sandy, and the site being a gentle declivity, they are well drained; and lying north and south, are open to the periodical winds. The building on the right of the lines is 60 feet long, by 16 feet broad within the walls. That immediately on the right of the hospital is also of the same dimensions, but not quite so

well ventilated. The serjeants' quarters lie between the right wing of the barrack and the store room. They consist of two rooms, each 14 feet by 17, and 10 feet high, with two folding doors, and four windows. There are two military cells, each 8 feet square and 16 feet in height, with two doors and two windows, situated on the left of the hospital.

The hospital is on the extreme left, and is built of like substantial materials; but its site is much lower than that of the barracks, and the soil near it is impregnated with saltpetre; the floor is not sufficiently elevated. The hospital lies parallel with the other public buildings, and having ventilators in the roof, is always well aired. It is supplied with water from the river in rear of the lines, except in the hot season, when it is procured from a large well; but as to the other wells in the cantonment the water is brackish.

The jail stands nearly in the centre of the old fort, the site being slightly elevated and considered salubrious. It was erected in 1813, and consists of several buildings in separate and spacious enclosures, for the various classes of prisoners, viz., male and female convicts, civil debtors, and the hospital; the whole being surrounded by a wall, at some distance, twelve feet high.

The hospital which can accommodate 50 patients is a large building within the precincts of the jail, and is supposed to have been, in former times, a part of the Killadar's residence. It is open in front, being only protected by a bamboo frame work, which is so contrived as to be easily lifted up or let down. The usual offices, and a place for the guard are attached, and the building is surrounded by a high wall.

There is also a civil hospital at Cuddapah under the care of the Zillah Surgeon, where all classes are received, and all diseases treated.

Sidhout.

Is a town and fort in the Cuddapah Collectorate, on the left bank of the Pennaur river, 10 miles E. by S. from Cuddapah. The fort is quadrangular, and built of sandstone and limestone. A succession of square bastions, built by the Hindus, protect the curtain; ~~those~~ at the angles are round, and overlooked by cavaliers, which have been evidently added by the Mussulmans from their shape and the mortar employed; the face that fronts the Pennaur river is furnished

with a *fausse braye*. The east gate now built up is protected by a ravelin of brick, built, it is said, by Mir Khan, under Tippoo, but according to the information of an old Patlian, it was built by M. Lally. The bridge formerly connecting it with the gate has been destroyed. The west gate now forms the only entrance; the gateways are of masonic architecture, handsomely carved and have choultries attached in the usual Indian style. Most of the sculptures however, have been greatly defaced by the Mahomedans. A deep and broad fosse protects three sides of the fort, while the fourth and southern face is washed by the Pennaur. The fosse can be filled with water during the rain from the river. The fort encloses, among other buildings, the ruins of the palace of its former Pathan chiefs, the Zenanah, the Cutcherry or Hall of audience, the Noubut Khaneh, the burial ground, closed by wooden palings studded with iron knobs, and one or two religious Hindu edifices used by the predecessors of the Mahomedan chiefs, the Chitwail Rajas. The Mussulman burial ground is said to contain the tomb of Halim Khan Miyani, whose body was brought from Serinapatam, whither he had been as before stated carried into captivity.

The Mausoleum of Bismillah Shah the Mûrshid, or spiritual guide of Mazid Khan Miyani, is situated between the *fausse braye* and curtain. It is covered by a handsome cupola surmounted by the gilt Crescent, in the Moorish style of architecture. The Mûrshid was a Shahid or Martyr, having been slain by infidels upwards of 70 years ago. Attached to the Mausoleum is a small mosque, garden, and burial ground. The pagoda dedicated to Iswara was erected about five centuries ago, by one of the Annagundi family, who also founded the town and fort. The ditch and round cavaliers are said to have been added by Dilawer Beg, under the Mahomedan sovereigns of Golcondah, who took Sidhout from the Nair Poligars tributary to the Chitwail Rajas. The following is the local legend of the origin of the place. "The site on which the fort was built was formerly a forest. In it there was an ant's hill, (or snake's hole,) in which the lingum, called Sidhâwat-Iswara Swamie, was self-produced; a banian tree also stood there. To this miraculous lingum, holy Rishis were in the habit of paying adoration. In the year Bava of the Hindu Cycle or the 1256 of the Salivahana Sâcum, that is about A. D. 1334, Sivashunkara Pundittah Rajaloo of the family of Annagundi, obtained the dominion of this country. At that time impelled by a dream, this king went to that hole, and while he was examining it, he ob-

served the Rishis paying their homage to the lingam, and seeing their offerings he was greatly rejoiced, and cutting down the wood he built a temple on the spot, giving it at the same time the name of Sidhāwat-Iswara. He also built a town and fort, and gave it the name of Sidhāwatum: (hence the European Sidhout,) from this period the right of worship began to be paid to the god. Afterwards the Annagundi Raj gave the place to the Chitwail Raja, A. S. 1367 in the year 1445 A. D. The first of these Rajas was named Shri-munnasha-mundal-iswara-matla Tiroovengadanada Rajaloo. In his time the courts, &c., of this Swami's temple were commenced to be built. He reigned 60 years. Afterwards his son, Yellamaraja, repaired and beautified the temple, and carried on the ceremonies. His son Tiroovengadanada Rajaloo afterwards added to the buildings. In the year Ruktakchi or the 1546 of the Salivahana Sācan, 1624 A. D., Mootoo Cumara-manoo-boju Anantaraja was born. In his reign the whole temple, together with the Culiān Muntapah and the Moocha Muntapah, were finished, and all the principal days were regularly celebrated with suitable rites. The reign of these kings was altogether 218 years. At this time the Vizier Mir Jumlah, from the Padshah of Delhi, came in possession of the country, and while he reigned he built large bulwarks and fortifications, but from that time the temple went into decay."

The formation of the adjacent hills is clayslate, limestone, and sandstone. Of the latter there is a beautifully variegated kind, with both waving and acutely bent lines of alternate red and white, resembling on a large scale those in agate. Many of the pillars in the fort gates are constructed of it, and have the appearance at a distance of a curiously veined wood. It is stated that during the Mogul government, diamonds were dug at a place in the Sidhout hills at no great distance, and also near the village of Durjipully. At the south-eastern base of the Nundi Cunnama ghaut between Cuddapah and Sidhout, flints used by the Cuddapah Nabobs were formerly dug; they lie near the surface in flattish rugged masses imbedded in red soil and angular gravel. The subjacent rock is sandstone.

The Sidhout hills are a continuation of the great clayslate and sandstone range of the Nullah Mulla that commences in the Nizam's dominions, north of the Kistna, and appears to terminate to the S. E. at Naggery. The Pennaur here flows through them towards the sea by a gap or pass similar to that by which the Kistna

finds its way through them farther north to the Bay of Bengal. Sidhout is situated in this pass on the left bank of the river, along which the road from Cuddapah lies, after crossing the rocky belt of the Nulla Mulla range. This valley is irrigated by the Pennaur, and full of cultivation; shady topes and Mahomedan Mukāns are interspersed throughout its extent. About 3 miles east from the rocky ridge just mentioned, the river, which hitherto flows on the traveller's left hand, takes an abrupt turn across the valley to the south. It is here crossed to the left bank, and is about half a mile broad, the water, shallow and beautifully transparent, runs over a bed of fine sand; the banks are silty.

The flat sandy bed of the river near Sidhout is, except in the rainy season, verdant with melon gardens and a variety of vegetables. The melons of Sidhout are celebrated among the Natives for their superior flavor.

Cumbum

Is the former capital of a subdivision of the Balaghat in the soubah of Cuddapah, and is to the present day a place of some size and importance. It stands in Lat. $15^{\circ} 34'$, and Long. $79^{\circ} 11'$. It is the station of the Sub-Collector.

The fort is situated distinct from the town, and is now in a ruinous state. It is commanded by the high ground north of the town; but otherwise the position is strong, being surrounded by paddy fields and water-courses supplied by the adjacent tank. The tomb of Mir Sahib, a connexion of Tippoo, who fell at Raichoty, a neat erection covered by a small tomb, is seen here. One of the finest artificial lakes in this part of India irrigates and fertilizes the land around the forest and town. It is almost surrounded by picturesque hills, contains several rocky islets, and is about 5 miles long by 3 to 4 in breadth. A singular tradition is related regarding the formation of the lake, which is much admired by Natives. The king of Golcondah, Mahomed Koottub Shah, on his march to invade this part of the country, sent ambassadors to the Rayel of Bijanuggur, to say that he had quitted his own dominions, solely to see the celebrated lake at Cumbum.

The fort is garrisoned by a detachment from one of the corps at Cuddapah. Cumbum is about 56 miles N. W. from Ongole, and 95

miles 2 furlongs travelling distance N. by E. from Cuddapah, and 261 miles 7 furlongs from Madras. It was formerly governed by a Nair Poligar, tributary to Bijanuggur, from whence it was taken by Neknam Khan of Cuddapah, and subsequently by Hyder.

Jummulmadoogoo.

This is the Cusbah town of a talook of the same name in the Cuddapah Collectorate, situated on the northern bank of the Pennaur, a few miles to the east of the Gundikota hills, in Lat. $14^{\circ} 50' N.$, and Long. $78^{\circ} 30' E.$ It is a place of considerable trade: the houses of the inhabitants are mostly built of the blue limestone seen in the bed of the river; a few are thatched with straw, but by far the greater proportion have flat roofs covered with the earth termed *Soud Mutti* (impure carbonate of soda). Large slabs of the limestone, some about ten feet long by five in breadth, are seen in the streets used for architectural purposes and for covering the orifices of the kuas or subterraneous granaries. Adjoining the bazaar stands a small fort without a ditch. The Dewan Khanch, the palace of the Cuddapah Pathan governors, and the tomb of Siddi Khan Miyan, brother of Halim Khan Miyani, Nuwab of Cuddapah, are in the vicinity. In the tamarind tope to the north of the town, is a temple dedicated to Nurrupu Iswara, erected about 400 years ago, and an unfinished bungalow for the use of the Collector. The trees about the town are principally the Neem, (*Melia Azadirachta*), the Banian, (*Ficus Indica*), the Tamarind and Sungkeysir. A few Urka bushes, (*Asclepius Gigantea*) grow among the sand. The staple articles of cultivation are jowaree, (*Holcus Sorghum*), cotton, tobacco, and turmeric. The population amounts to about 3,000, the greater proportion Kumbis speaking Telinghi. There are about 500 Mussulmans, 200 Smarta Brahmins, 100 Vaishnavar Brahmins, 60 Sri Vishnavers, a few Telinghi and Lingum Buljars, Beders, and about 200 Chsetri Mahrattas employed in dyeing and printing cotton cloths. They carry on business much in the same way as their brethren at Talikota in the Southern Mahratta Country. The cloths, principally Sâlies and Palampores, are manufactured by the Julais of the place, and are first prepared with a dye of a dull yellow, and printed. The stamps are of teakwood, and resemble Chinese types. They are dipped in square shallow boxes holding the first dye, a dark coloured preparation in which vinegar and iron are

combined. The work is divided amongst several hands. One prints the borders, another the body of the cloth, and so on. The red, blue, and green colours, are the last put on : the two latter are evanescent. The other colours are fixed by steeping the cloths in the water of a well in the bazaar, impregnated with saline matter. The soil in the immediate vicinity of the town is sandy, owing to the proximity of the river the bed of which is nearly dry during the greater part of the year. The surrounding formation is blue limestone alternating with sandstone.

Budwail.

The capital of a talook of the same name in the Collectorate of Cuddapah, travelling distance from Madras by Cuddapah 198½ miles, and from Cuddapah by Sidhout 32 miles. It is situated in the Cum-bun valley to the east of the Nulla Mulla range, and is a place of some antiquity. The lands about it are irrigated by two tanks, and the soil is extremely fertile, if one may judge by the extent and profuseness of the cultivation. Barren spots occur however without a single blade of grass : this appearance seems to be caused by saline impregnation, generally common salt or native soda. The soil is fine and reddish, arising principally from the disintegration of the subjacent schistous rock, mixed with a proportion of lime and oxide of iron, it lies on a bed of kunkur varying in thickness from an inch to 7 or 8 feet.

Budwail was formerly under a Poligar tributary to the Bijanugur Rajas, from whom it was taken by Neknam Khan of Cuddapah, and annexed to his territory.

Pulgooralapully.

A village in the Cuddapah collectorate, about 39 miles travelling distance N. by E. from Cuddapah. There is a tope long the resort of Pelicans, and a species of stork that have resided here for many years under the especial protection of the inhabitants, who regard them with feelings akin to veneration. The young ones are exceedingly vivacious and quarrelsome, and make an incessant chattering : the solemn attitude of the old bird standing over their nests with curved necks and their great beaks resting on the breast is remarkable.

Their food is fish, principally from the neighbouring tanks. This is perhaps the only place where the Pelican breeds in flocks. Like other birds of the Totipalmes family, though having webbed feet, they roost on trees and, moreover, build among the branches; a curious fact of this bird is described by Cuvier and other naturalists, as breeding among marshes, and building its nest on the ground.

NUNDI CUNNAMA PASS.

Across the Nulla Mulla chain which separates the Ceded Districts from the Ports on the Eastern Coast, north of Madras, are twelve Passes, the principal of which, commencing southerly, are those of Sidhout or the Auripoyah, Jandermorum, Jungumrazpully, Yeddedgoo, Goota Cunnama, Nundi Cunnama, Cota Cunnama, Goola Brameswa, Korty Cunnama, and Muntra Cunnama. Those of Sidhout, Jungumrazpully, Yeddedgoo and Nundi Cunnama are most frequented: the three first are travelled by bandies, the last by lightly-loaded bullocks. The Nundi Cunnama Pass lies in the direct line of commercial communication between the Ceded Districts, Coorg, the Southern Marhatta Country, Kurnool, and the east coast, and if rendered passable for bandies, would tend greatly to increase the trade and intercourse now carrying on between these parts. A new road over the Pass is now being made under the supervision of a military officer. A few years ago according to Native information gleaned on the spot, about 1,000 bullocks laden with the produce of the Ceded Districts, iron implements of agriculture made at the foot of the Nulla Mulla, and quantities of timber cut on its sides, passed over annually to the eastern coast, returning chiefly with cloths and salt; articles too heavy or unwieldy for bullocks are compelled to take the circuitous route of Cuddapah or the Yeddedgoo Pass. The following are a few notes on the Nundi Cunnama Pass taken when crossing the range from *Cumbum* in 1836:

“ Metta, a police station, is merely a cleared spot in the low jungle at the eastern base of the hills. Encamped here on some ground on the right bank of the Sugglear stream, and found in it a good supply of water; banks steep, bed slaty and narrow. The soil to the foot of the hills appears to be rich, and is generally under cultivation. From Metta to the foot of the Pass, the distance is about $4\frac{1}{2}$ miles, the ascent three quarters of a mile, and the descent $1\frac{1}{2}$ miles. From the end of the Pass to Pacharla is $3\frac{1}{2}$ miles. Pacharla is 6 miles from

Gazoopillay, the nearest village in the Kurnool district. Before commencing the ascent from the eastern side the road seems to wind up a sort of dofile, with wooded hills on the right and left as also in front. The only inconvenience experienced was by the elephants and camels from the low boughs of trees which however were speedily cut through. The actual ascent, which commences near a well, is steepish and rugged with loose stones and projecting beds of slate. The jungle from its being principally of upright and lofty clumps of bamboo, presents fewer obstacles than the approach. The descent appears to be steeper for the first half mile than the ascent, and runs for the greater part parallel to the side of the hill. After ascending and descending another small hill, the Pass terminates as it commenced, at a well, near which are the ruins of a small dewal sacred to the Bull Nandi,* from which some say the Pass owes its name. From this to Pacherla about $3\frac{1}{2}$ miles is quite practicable for bandies, though the road is sandy and stony. It lies through a bamboo jungle, in which however are some Ippy, (*Bassia longifolia*), and other timber trees fit for buildings.

Pacherla, like Metta, is merely a police station in the jungle, with the advantage of a well. The encamping ground is good, but no supplies. The road for the transit of loaded camels and elephants should be cleared of the overhanging branches to the bottom of the Pass, and the animals themselves ought to be lightly laden. For bandies the Pass (*i. e.* its ascent and descent), would require clearing of the loose stones on its surface. The cavities formed by the shelves of slate should be filled up by levelling the projecting laminæ, and employing the fragments for this purpose. For guns, the Pass, as it is at present, is just practicable, with care and assistance. The whole course of the road might be altered with considerable advantage and put upon a better slope."

Giddalore

Is a large village at the eastern flank of the Nulla Mulla hills, between Cumbum and the Nundi Cunnama Pass. It is situated on the banks of the Suggleair stream which runs to the Pennaur, surrounded by pleasant shady tamarind topes, and is well supplied with water. The soil generally is a fine rich *regur* lying upon clay slate and mingled

* *Nandi* is the sacred bull ridden by Siva. *Cunnama* means a gorge or pass.

with calcareous matter deposited by infiltration ; besides other dry grain it produces wheat in tolerable abundance. Giddalore is 14 miles travelling distance S. W. from Cumbum.

Jungumrapilly.

A village in the Cuddapah Collectorate, 29 miles N. E. distant from the town of Cuddapah, and 196 miles from Madras. It lies to the east of a Pass of the same name leading over the Nulla Mulla hills which here form a low wooded range. The road is stony but practicable for guns and carriages. The village is located nearly in the centre of a beautiful vale, well cultivated with dhal, rāggi, and the castor-oil plant. There is some good hare and partridge shooting about the hills in the vicinity. The formation of the surrounding hills is clay slate and sandstone. A detached hill of grey argillaceous limestone occurs in the vicinity imbedding pyrites and veins of a beautiful calc-spar. Lead ore (*galena*) is found in the sandstone formation.

NELLORE.

Situation and
Boundaries.

THIS district is 170 miles long north to south, and 70 broad east to west; is bounded by the Bay of Bengal on the east, and south-west by North Arcot, west and north-west by Cuddapah, and north by Guntoor; was acquired from the Nuwab of the Carnatic by treaty in 1801, and includes Ongole and part of the western Pollans or Zemindaries.

NELLORE, Feby 1260. Area = 7,930 Square Miles.

Talooks.	Cushbah or principal station.	Number of Villages.	Population.	Extent of Land cultivated.			Land Revenue.	Number of Puthlis.	Extra sources of Revenue.
				Wet and Garden.	Dry.	Total.			
1	2	3	4	5	6	7	8	9	10
1 Survapully.....	Goodoor.....	42	31,510	Acres. 3,128	Acres. 2,043	Acres. 5,171	Rupees. 88,859	1,685	
2 Cottah.....	Cottah.....	30	18,627	1,938	448	2,386	58,304	711	
3 Nellore.....	Nellore.....	58	68,522	8,166	1,885	10,001	1,79,523	2,310	4,60,733
4 Tullamunchy.....	Allore.....	46	32,420	6,348	589	6,937	1,29,380	2,707	30,154
5 Sungum.....	Sungum.....	37	31,801	3,045	4,095	7,140	89,953	2,412	688
6 Cavally.....	Cavally.....	26	20,569	2,214	1,107	3,381	63,825	1,096	17,651
7 Poonaleetulpoor.....	Toadaroo.....	19	12,873	247	2,798	3,045	34,057	990	10
8 Goondavole.....	Rapor.....	24	8,167	219	1,233	1,502	21,369	579	13,785
9 Ravoor.....	Davaoyaputty.....	65	36,552	1,803	6,877	8,680	1,03,089	2,860	
10 Calegherry.....	Calegherry.....	43	22,342	1,364	6,613	7,977	55,994	2,395	5,23,021
11 Woodingcherry.....	Woodingcherry.....	66	31,696	1,330	5,677	7,007	64,236	2,348	
12 Sydapoor.....	Sydapoor.....	59	14,016	271	1,028	1,299	30,000	521	POPULATION.
13 Endapoody.....	Cundookoor.....	40	29,056	1,862	3,672	5,534	73,966	1,594	
14 Davagoodoor.....	Ponnaloor.....	76	40,461	1,200	14,757	15,957	1,30,248	2,920	
15 Ongole.....	Ongole.....	37	51,731	852	11,805	12,657	1,10,340	2,417	8,94,034
16 Enamanallore.....	Enamanallore.....	39	27,029	222	9,679	9,901	84,387	2,032	41,656
17 Chendallore.....	Addimky.....	38	23,664	199	9,280	9,479	62,783	1,667	and others not Hindoos
Total.....		745	5,01,036	34,408	83,646	1,08,054	13,80,313	31,244	9,35,690
Shrotnem.....		289					1,04,567		
Permanently settled Estates..		1,082	4,34,654				4,17,815		
		2,066	9,35,690				19,02,695		

The Zemindaries in the district are Vencatagherry, Choondy, and Mootialpād, besides some small Pollams. Part of the Calastree Zemindary is in Nellore. The old Sydapoor Zemindary is now the property of Government. The Jagheer of Woodiagherry was seized by Government in 1839, in consequence of the Jagheerdar having been suspected of rebellious intentions.

Aspect. The general aspect of Nellore is barren and uninteresting, large trees being only found near villages, while the wide extending plains on both sides of the river present nothing to the eye, but stunted jungle and occasionally a thorny shrub, called the Pooma, the fruit of which is acceptable to cattle. The Woodiagherry mountains are to the north-west, distant about ten miles, and of great elevation; the highest point having been estimated at 3,000 feet above the level of the low country. Among the valleys, wood of a large size grows abundantly, and in the direction of the coast at Ramapatam there are extensive jungles. Geologically, the country is of a primitive formation, and the general rock is a mica slate of different colours and consistence.

Rivers. The principal rivers are the Pennaur, Soornamooky, Paulair, Moosy, and Goondlacummah. A salt water creek runs several miles inland near Joovuldinnah, on which a ferry boat is kept for the convenience of travellers; but heavy baggage is conveyed by a circuitous route of about three miles.

The bed of the Pennaur is one of unvaried sand from the place where it enters this Zillah (about 50 miles west of Nellore) till it enters the sea: but higher up to the westward, it is stony, and has numerous large and deep hollows in its course, forming natural reservoirs plentifully stored with fish, which, on the river coming down in the monsoon, find their way into the tanks. The bed of the river is nearly dry for 5 or 6 months of the year, but in a few days after the monsoon sets in, it becomes filled from bank to bank, and is then at Nellore eight hundred yards and upwards in breadth, and thirty feet deep; much slimy mud is deposited on its banks in the vicinity of Nellore.

The Soornamooky river rises in the Chittoor hills, and crosses the Nellore road, two miles from Naidoopettah; it has an irregular course north-east and by east, and likewise gives off several channels to supply tanks; its bed is sandy, and it is completely dry except during the rains, when it contains a considerable body of water.

The other rivers are comparatively small, and are generally dry, except during the rainy season; they give off no water channels, but wells and tanks are constructed along their banks, from which the neighbouring lands are irrigated. There are in the district 700 tanks. An annicut, across the river at Nellore for the supply of numer-tanks in the neighbourhood, has been sanctioned. It is on the line of the Northern road, and will eventually be surmounted by a bridge.

Roads. The great northern road from Madras to Masulipatam traverses its whole extent, nearly in a straight line, at a short distance from the coast, and consequently along a plain, but little elevated above the level of the sea; the road throughout the greater part of its extent is artificially raised above the level of the surrounding country, forming a causeway three or four feet high.

Long tracts of this road in heavy monsoons are frequently washed away by the water collecting on its western side, notwithstanding the numerous archways left as outlets for it.

The distance of the road from the sea depends on the curvature of the coast; at Goodoor it is ^{seventy} miles, at Nellore thirteen, at Ramapatam it is close to the beach, and at Ongole, where it bifurcates into the Hyderabad and Masulipatam branches, it is eight miles distant.

Natural Productions and Manufactures. About one-third of the district is under cultivation, the other parts being either waste, barren, or jungly tracts. The south of Ongole produces much rice in the vicinity of tanks, but on the higher lands to the westward, from an insufficiency of water, dry grains only, such as coolty, cholum, rāggi, gingely seed, the castor-oil plant, and tobacco can be grown; the northern parts of the district near Ongole likewise produce cotton, cholum, chenna, tobacco, and several kinds of dry grain; chay-root, (a dye), is cultivated on the coast, and many of the ryots grow indigo in dry soils in various parts of the district. Several medical drugs are produced in the jungles on the western hills, and exported to Madras and other places.

There are some indigo manufactories, the property of Mercantile houses at Madras. Firewood, saltpetre, as also betel and tobacco, are exported to some small extent to Madras.

Copper Mines. In 1801 several copper mines were discovered in this district, and portions of the ore were sent home and assayed.

ed. One specimen weighing 30 cwt. yielded 9 cwt. of pure copper. Although not equally rich in the metal, they were found to be remarkably fusible, very free from iron, and consequently well adapted for sheathing. These mines were leased to a contractor for five years by the Madras authorities, but they proved a failure, and are given up. The Zemindary of Calastree, in which the copper mines are situated, is to the north; to the west of it lies the Woodiagherry Jaghire and the Ceded Districts; to the north the Naidoo country belonging to the Vencatagherry Rajah, and to the eastward the Nellore district. The principal mining places were about 50 miles N. W. from Nellore, 30 from the sea. Several streams traverse it on their way to the sea, and the junction of two of them forms a considerable river at Gurramenapettah, although not navigable.

Climato. The climate of Nellore is warm, but salubrious, being subject to no sudden transitions of temperature, and is very similar to that of Madras. The following is the average mean range of the thermometer throughout the year. January and February $76\frac{1}{2}^{\circ}$, March and April 82° , May and June 94° , July and August 94° , September and October $81\frac{1}{2}^{\circ}$, November and December $75\frac{1}{2}^{\circ}$.

The prevailing winds are the same as at Madras. The fall of rain during the year is from 30 to 40 inches, and occurs partly during the south-west monsoon in August and September, but chiefly in October, November, and December.

Villages & their Inhabitants. The villages are small, and the houses mean, consisting mostly of three or four detached huts, one serving as a sleeping room for the family, another for a working room, and a third for their goods and chattels. Except during the rains, the cattle are kept in the open air, but at that season they are admitted within doors, and form part of the family.

Notwithstanding their poverty, the inhabitants appear stout and healthy. The cultivation is chiefly rice, for which there are large tanks near the villages; but on the high grounds towards the north it is nearly all dry grain cultivation. Rice is deemed a luxury here. The ordinary food of the working classes is cholam, eaten with or without rāggi; and those who can afford it use rice. The Yanadies, a wild race of people, are in the habit of using a great variety of roots, fruits, and leaves as articles of food, which others are unacquainted with, and during seasons of scarcity, it has been observed that they suffer less than other classes of the poor. They are an ex-

traordinary race of people, not very honest, but capital thief catchers. They are very expert also in catching birds and animals.

Cattle. The northern part of the district of Nellore is celebrated for its superior breed of cattle, which are how-

ever found to degenerate very rapidly when removed to other parts of the country, unless particularly well fed. Large flocks of sheep are pastured for the Madras markets.

The manufacture of salt for the Government Monopoly in this Zillah, is greater than in any other under the Madras Presidency. It is carried on at six places situated on the coast. Their names are Pâ-dati, Pâkala, Eskapilly, Kishnapatam, Doorgarazapatam, and Tada. In each of them there are a number of cotaurs, or depôts, at some little distance from each other, in which the salt is made and stored. The salt is of two kinds : white and (so called) red. The former is made for exportation in the two divisions, Eskapilly and Kishnapatam. A brisk trade in this commodity is carried on between these two ports, and Chittagong and Calcutta. The red salt is made for home consumption, and for trade with the inland Zillahs. This traffic is usually carried on by a peculiar race of people called Brinjarries.

Saltpetre is manufactured in this Zillah, but it is inferior. It is made in small quantities in the Caligherry and Saugam talooks, but what is procured in the bazaar is usually imported from other parts of the Presidency.

Nellore.

The principal town in the Collectorate, 111 miles from Madras, and 13 inland from the sea, and the seat of the chief civil authorities of the district, is situated in latitude $14^{\circ} 29'$, and 80° . The Pennaur river flows past the town.

The site of the town is well raised, and the soil is red laterite. In former days, as was the case with most towns of any extent in India, it was surrounded by a rampart, which, as well as the Fort, is now in ruins.

The town is irregularly built, and in some places rather crowded and confined, but there are some good streets occupied by the better classes, and on the whole for a native town it is tolerably clean and airy. The country around is open ; to the west is a very extensive tank filled from the river, and in the vicinity of the town, and principally to the eastward are extensive fields of rice ground, watered from the tanks and also by canals cut from the river ; to the south of

the town the country is open, hilly, and covered with a low thinly scattered brushwood.

The jail is situated a little to the south-east of the town, surrounded on two sides by paddy fields, above which it is raised about six feet. In the immediate vicinity are three water-courses from the river, which supply the fort ditch, the jail wells, and also serve to irrigate the adjacent lands.

The structure itself, which is calculated to contain upwards of 800 persons, consists of a double range of buildings forming two distinct squares, being inclosed with a wall 11 feet high; it is provided with sentry boxes on the top, commanding a view of the interior of the squares from which any outbreak or riot among the prisoners can speedily be discovered; the new jail, together with the hospital, were added in 1825. Both buildings are pent-roofed and tiled; the old jail is appropriated for the unconvicted, or prisoners under trial, and the new jail is set apart for convicts.

The hospital is a line of building in the same enclosure, extending across its whole breadth, at the southern part; it is well raised, airy, and divided into three wards, the windows being provided with venetian shutters; it is pent-roofed and tiled with a double verandah, and calculated to contain 60 patients; a dispensary and surgery are attached to it. There is a civil dispensary to the S. W. of the town, but at some little distance from it, this is near the river, and is a well built substantial house. Paupers are admitted free of expense.

The houses of the English residents are to the south of the town, on the east bank of the *lake*.

There are perhaps more Mussulmans in this town, than in most in this part of the country. Telugu is the language of the inhabitants, but it is remarkable that the fishermen in the coast speak a barbarous dialect of Tamil; this is not the case to the north of Ramapatam.

Doorgarazapatam.

This village now occupied chiefly by salt manufacturers, is often mentioned by the early historians of British India as Armegon, being our first settlement on the Coromandel Coast. At present it is seldom heard of, except in connection with the "Armegon Shoal." It is in N. Lat. $13^{\circ} 59'$, and 55 miles north of Madras.

The origin of the Factory in 1625 will be found in the account of the town of Madras, but the Native tradition as to the arrival of the

English is as follows : “ In the time of Gooroova Naidoo, great-great grandfather of Rajah Gopaul Naidoo, some gentlemen of the Hon’ble Company came to this port on board ships, dropped anchor, landed at this port, sent for Gooroova Naidoo, who was then Chief man of this place, and Putnaswamoola Armoogum* Moodeliar, the Curnum† at this port, and told them that they (the gentlemen), wanted to improve the place and build a fort there ; that those two agreed to this, and caused the cargo on board the vessels to be landed. That afterwards the gentlemen constructed a bastion on the eastern side of this village, and mounting a gun upon it fired the same, that the shot fell down into the Vencatagherry Zemindar’s land, at 2 guddies distance on the west side ; that they expressed a desire to build a fort here, if the land included within the range of the projectile was given to them ; and they accordingly placed Gooroova Naidoo and Armoogum Moodeliar in communication with the Vencatagherry Rajah on the subject ; but that the Rajah, by name Bungaroo Yachama Naidoo, did not consent to give the said land. That upon this, the said Gooroova Naidoo and Armoogum Moodeliar went and spoke to Damerla Chennapa Naidoo, and obtaining his consent to make over to the Company the land forming Chennum Coopum, situated to the north of Mylapoor, returned to this place, rendered every assistance to the gentlemen and took them on, when the latter gave to this Doogarazaputnum the appellation of Armoogunloo. That they got to that place, (Chennum Coopum,) and built a fort, and the gentlemen pleased with the pains Gooroova Naidoo and Armoogum Moodeliar had taken, (on their account) conferred in conformity with their wishes, on the former the office of Dalavoy,‡ &c., and on the latter that of Stulla Curnum.§

In the hoondies (drafts), given by the ship captains•for the money upon agents in Madras, and in accounts the salt used to be stated as exported from Doogarazapatam and *Armoogum*.

A light house is in course of erection, six miles to the south of Doogarazapatam. Its object is to keep vessels clear of the Armegon Shoal. It is at the village of Moonapolliam ; its latitude $13^{\circ} 52' 50''$

* The old name Armegon was no doubt given by the English from this name.

† Canakapilly or Curnum, the Accountant or Registrar,

‡ Headman of business.

§ Accountant or Register of a Division,

North, and longitude $80^{\circ} 12' 00''$ East. It is close to the shore, and the light being 95 feet high, is visible from the poop of a 700 ton ship at 15 miles. The Armegon Shoal is about 10 miles long; the shallowest patch is $1\frac{3}{4}$ fathoms, and lies from $3\frac{1}{2}$ to $5\frac{1}{2}$ miles E. by N. of the above Light-house.

Ongole.

The town of Ongole lies in the northern extremity of the Zillah, and is of considerable size, it has a small fort in a state of dilapidation, and the river Moosy runs close by it; the scenery in the neighbourhood is somewhat picturesque and varied. Ongole is subject to occasional shocks of earthquake. The hill near the fort is impregnated with iron.

Bachireddypollam.

A small village about 8 miles west of Nellore, is the place where the finest cloths are manufactured; excellent tent-cloth is made in the talooks of Buddapoody and Dooragoodoo.

Ramlapatam.

A village on the coast, in latitude $15^{\circ} 2'$. The Sub-Collector resides here. It is about 40 miles from Nellore.

COLLECTORATE OF MADRAS.

THIS small Collectorate, including the town and suburbs of Madras, occupies about $26\frac{1}{2}$ square miles. Its boundary is the same as that of the jurisdiction of the Supreme Court, and is defined in Sec. XII. Reg. II. of 1802. It is a space extending about $3\frac{1}{2}$ miles north, and the same west, and south, of the Fort as a centre. The Regulation above referred to is as follows :

“ XII. The Zillah Courts are not to receive or entertain any
 “ suit, under any pretence whatever, relating to any land, house,
 “ tenement, or hereditament, nor a dispute regarding the boundaries
 “ of lands, houses, tenements, or hereditaments, situated within the
 “ town of Madras or the limits of the Supreme Court of Judicature
 “ at Madras, which for the purpose of this rule is declared to be
 “ bounded as follows. That the southern limits shall be the southern
 “ bank of the Saint Thomé river,* as far as the road leading to the
 “ Long tank ; that the limits shall then be continued in a northern
 “ direction, along the bank of the Long tank, and from thence along
 “ the bank of the Nungumbaukum tank, as far as the village of Chet-
 “ tapet, upon the banks of the Poonamallee river ; that the limits shall
 “ be continued, in the same direction, to the villages of Kilpaukum
 “ and Peramboor, and that, from the latter village, it do take an
 “ eastern direction to the sea, so as to include the whole village of
 “ Tondiarpetta ; also that no lands, situated to the southward of the
 “ Saint Thomé river, or to the westward of the bank of the Long
 “ tank, or of the Nungumbaukum tank, shall be considered within
 “ the limits of the said town of Madras ; but that all the lands in-
 “ cluded in the said villages of Chettapet, Kilpaukum, Peramboor,
 “ and Tondiar, shall be considered within the said limits. Nor shall
 “ the Zillah Courts entertain any suit whatever against a person who
 “ may be a resident of Madras, or of any place within the said limits,
 “ at the time the suit may be instituted. The Courts are commanded
 “ not to intermeddle with or take cognizance of the suits abovementioned, which are to be considered entirely exempt from their juris-

* Generally known as the Adyar.

"diction. But the prohibitions contained in this Section are not to be construed to extend to preclude the Zillah Courts entertaining any suit concerning marriage, or caste, in which no money or other valuable thing may be demanded or decreed, although the cause of action shall have arisen, or the defendant may reside, or shall have resided at the time the suit commenced, within the limits of the Supreme Court."

N. B.—The "Abkarry" Revenue limits extend 8 miles beyond the above boundary.

The Revenue of this Collectorate from all sources, is as follows, for the last 6 Fuslies, (Fusly 1263 begins 12th July 1853, and ends 12th July 1854.)

Statement showing the Revenue of the Madras Collectorate under each head of Revenue for the last six years.

Fuslies.	Land Revenue.		Salt.		Land Customs, (abolished in 1853)		Abkarry.		Fees for Stamping Weights & Measures		Toll on Cochrane's Canal.		Stamps.		Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1258	63,700	3,98,800	118	5,72,744	11,262	31,471	8,016	10,86,123							
1259	65,531	4,13,692	230	5,72,068	11,231	31,635	8,722	11,03,109							
1260	65,936	5,15,368	104	5,37,900	11,171	32,516	9,613	11,72,639							
1261	65,911	4,21,884	141	5,45,145	10,516	26,126	8,725	10,78,178							
1262	66,267	4,51,334	199	5,75,070	9,604	20,154	9,267	11,40,955							
1263	66,531	5,77,000	—	6,15,000	8,180	21,415	17,692	13,02,821							

The "Land Revenue" is composed of the following items on an average :

Quit Rent on houses and tenements.....	58,000 Rs.
Ground Rent.....	8,000 ,,
Shrotrium, or land paying at most a nominal rent, being held on grant for services, &c....	200 ,,
Summadāyem (or lands held jointly).....	50 ,,

66,250 Rs.

The charge of collecting this Revenue is about 20,000 Rupees per annum, including repairs to water-courses, and Survey establishment.

It is a curious fact that out of the 24,000 houses and tenements that pay the 58,000 rupees Quit-rent, only 19,000 pay more than 10 rupees a year.

The Collectorate of Madras comprises 16 "Divisions" as per list below. The greater part of most of them have been built over with Native houses, or else Gentlemen's houses, and their enclosures.

Triplicane is inhabited chiefly by Mussulmans, dependents on the Nawab, who has a residence there known as the Chepauk Palace.

1. Moottial Pettah.	} Black Town.	9. Vepery.
2. Peddoo Naik's Pettah.		10. Pursawaukum.
3. Chintadrepettah.		11. Nadoombaray.
4. St. Thomé.		12. Chetput.
5. Triplicane.		13. Peramboor.
6. Comaléswareen Covil.		14. Veysurpaudy.
7. Nungumbaukum.		15. Eroongoondum.
8. Egmore.		16. Tondiarpett.

The population of this Collectorate has not been correctly ascertained, as great opposition is made by the Native inhabitants to a Census: it is supposed by the best authorities to be 7,00,000; of which about 1,50,000 are in Black Town. 18,000 Rs. of Quit-rent and 4,000 of Ground-rent is levied in Black Town. The "Quit-rent" inside the walls, is not rated on the extent of land, as it is outside, but on the value of the properties. The "Ground-rent" is that charged on shops. The Municipality collect their Assessment besides, on the same properties.

Salt. The Salt Revenue in the Collectorate of Madras is an important item, and is likely to increase in consequence of improvement in means of communication. Many of the Traders who used to go to Covelong and other places on the Coast, now come to the Central Dépôt at Madras near the S. W. wall of Black Town. They bring goods to Madras from the interior, and load with salt for return.

The salt is manufactured at 5 villages in the neighbourhood of Ennore, varying in distance from 17 to 12 miles from Madras. The villages, and the quantity of salt which they now supply yearly, is as follows: (the quantity will increase as some of the later pans get more worked.)

	Garce.	No. of Pans.
Ennore.....	3,000	452
Attēput.....	1,400	885
Vulloor.....	1,300	368
Voyaloor.....	1,550	230
Poortiwaukum..	1,800	522
	<hr/> 9,050	<hr/> 2,457

The different Salt Pans are situated close to the creeks or inlets from the sea. The earth is rammed down to a hard smooth level, and water baled into a compartment called a Reservoir, whence it is let off by degrees into the smaller beds. As the brine evaporates, the salt is scraped up. It takes a long time every season to prepare the pans. The arrangements commence in January, and it is not till March that any salt is gathered. The cultivation (as it is called) generally closes with the partial rains of August. Each Pan including the Reservoir which occupies half of it, is about $\frac{1}{2}$ a cayny or $\frac{3}{4}$ ds. acre in extent, and ought to yield 5 or 6 garce in a good year.

The salt is not allowed to be sold on the spot. It is conveyed by boats down the Cochrane Canal to the Madras Depôt. A small Depôt is however set up at Ennore close to the beach for the convenience of sea-shipments. The persons who make the salt have a kind of hereditary right, and are paid by Government 10 Rupees for every garce brought to the platform, or nearly three times what it costs them to make it, so that a "Salt-pan" is considered valuable property.

The price at which the Salt is sold (and it is the same at all the Depôts in the Presidency is 120 Rs. a Garce* or 1 Rupee per Indian maund of 82 $\frac{1}{2}$ lbs. or 2 $\frac{1}{2}$ d. Pice for a lb. or nearly 3 $\frac{1}{2}$ lbs. for one penny. At the Government Depôt the smallest quantity of salt that one person can buy, is 5 Mercals or 1 $\frac{1}{2}$ Maunds, price 1 $\frac{1}{2}$ Rs. Salt bought for export by sea is given at 15 Rs. per 100 Maunds, or 18 Rs. per Garce.

This petty Revenue arose from duties charged on Land Customs. Banghy parcels from Foreign States, as Pondicherry, Hyderabad, &c. The articles paying duty were chiefly silk cloths,

* Properly speaking, the Garce is a measure of 400 Mercals. The salt Mercial is larger than the standard, in order that 1 Garce may weigh 120 Maunds. The Mercial is 828 $\frac{1}{2}$ cubic inches. 1 ton of salt = 27.216 Maunds; or 400 Maunds = 18 tons; so that 1 Garce = 4.4 tons.

and gold lace. A great many parcels were needlessly opened, and the Revenue was not worth the annoyance. The whole was abolished, by order of Government, in 1853. Previous to Act VI. of 1844 which abolished the Transit duties, the "Land Customs" were the chief source of revenue in the Madras Collectorate.

Abkarry Revenue.

The Abkarry Revenue is derived from a profit on the sale of *Arrack*,* (the difference between the cost price to Government, and what they sell it for being considered as a kind of excise,) and by a tax on the *Toddy* shops.

By Sec. VII., Reg. I. of 1813, no spirits manufactured eastward of the Cape can be sold in Madras, except such as are supplied to the dealers, by the Collector; and this in some measure is a security against the use of poisonous adulterations. The licenses to open Arrack shops are put up to auction; those who offer to take the most liquor, specifying the quantity per day, are allowed licenses, but the number is limited, and no licenses are given to persons objected to by the Police.

The Revenue from the Madras Abkarry, (which includes a distance of 8 miles beyond the Supreme Court limits), is about 6 lacs of Rupees a year.

There are two kinds of arrack sold by Government to the venders; 1st, the Colombo arrack imported from Ceylon, and which is made from the juice of the cocoanut tree, (and is supplied to the Collector by the Commissariat;) and 2nd, the Putta† arrack made at the Government Distillery in Black Town, from jaggery or molasses. The Colombo arrack is sold by Government at 44 fanams, (3 Rs. 6 As. 10 P.) per gallon. It costs 10 As. per gallon. The Putta arrack is sold at 38½ fanams, (2 Rs. 15 As. 11 P.) per gallon to shops within the Supreme Court limits, and 18½ fanams (1 R. 7 As. 1 P.) to shops beyond. It costs Government 6½ Annas a gallon to make, or with cost of establishment, 8 Annas.

There are 47 *Colombo Arrack* shops, which take altogether, about 130 gallons a day; 57 *Putta Arrack* shops within the Supreme Court limits, which take altogether, about 125 gallons a day; and 41 shops *outside*, which take altogether, about 118 gallons a day. The number

* In the Mofussil, the system is different. There the exclusive right to manufacture and sell Spirits and Toddy is farmed out for a certain period; and the Renter appoints his own shops, and Sub-renters.

† Called so from *Putti* bark, for the bark of the white *Felum* or *Acacia leucophloea*, is mixed with the Jaggery.

of shops has not increased much since 1835, when the Colombo arrack shops were 47, the Putta arrack in the limits 50, and beyond the limits 37; but the *quantity* they now sell is larger. The licensed dealers are liable to a penalty if they sell arrack below the price charged to them by Government. It is supposed that this prevents the sale from private stills, and smuggling.

The Revenue from *Arrack** is about 3,70,000 Rs. per annum.

The *Toddy* shops are not rented out, but on application to the Collector, the applicant if approved, is furnished by the Collector with authority to open a shop. He then obtains a license from the Police as in the case of Arrack Dealers. There are 4 classes of shops; to each of which a fixed number of trees is allotted for their consumption, and a daily tax according to the class is levied, varying from 36 to 10 fanams, or from 2 Rs. 12 As. 9 P. to 12 As. 5 P. The number of Toddy shops authorized in 1835 was 400 within the Supreme Courts, and any number outside. The number of shops now within the Supreme Court limits is about 300, and outside 120.

The Revenue from the Toddy shops is about 2,40,000 Rs. yearly, so that the "Total Abkarry revenue" is about 6,10,000 *gross*, or 5,30,000 *net*; for the "charges" are less than 80,000 Rs. per annum.

A trifling Revenue of 1,500 to 1,800 Rs. a year is raised from Brandy. The Collector is authorized to supply it in case it may be required as medicine, to 4 or 5 shops, and they pay an enhanced rate for it.

The following Statement will show the "Abkarry" revenue from the town and suburbs of Madras, for the last 6 years. Fusly 1263 ended in July 1854.

	Arrack.	Brandy.	Toddy.	Total
Fuslies.	Rs.	Rs.	Rs.	Rs.
1258	3,41,051	967	2,30,726	5,72,744
1259	3,35,358	1,135	2,35,146	5,71,639
1260	3,06,319	1,051	2,27,638	5,35,008
1261	3,09,170	1,210	2,34,765	5,45,145
1262	3,30,503	1,529	2,43,038	5,75,070
1263	3,72,500	1,800	2,40,600	6,14,900

* Colombo Arrack about 1,80,000 Rs., and Putta Arrack 1,90,000 Rs.

The next item of revenue is that derived from stamping weights and measures. The fees have lately been reduced to two annas per stamp, or one anna for certifying to an old one. The proposed Regulation Standard for Measures, though notified in the *Gazette* of 20th Oct. 1846, has not yet been adopted. The Mercal and Puddee of the Madras Cutcherry have been gauged, and found to be 832 and 104 cubic inches respectively (struck); whereas the *old* Mercal and Puddee were 750, and $93\frac{3}{4}$ cubic inches, (struck :) and the Government Standards are 800 and 100 cubic inches.

A small toll is levied on boats traversing the Canal that leads from the Basin at the S. W. corner of Black Town, to the south end of the Ennore lake (or backwater) at Sadiencoopum, about 6 miles from Black town,—and also on the Channel from the north end of the Ennore lake to Pulicat. This work was planned in 1801, and tenders for its execution were accepted from Mr. Heefke, Mr. Basil Cochrane being surety, and in fact proprietor. The contractor was to keep the work in efficient order, and to have a lease for 45 years from 1802, with a right to levy toll at certain rates. The work was completed in 1806, including the northern canal, generally known as the Cantoopilly* channel, and which is not in charge of the Collector of Madras.

Before the lease was out, that is in 1837, the Canal was transferred to Government, in consideration of an annuity of 14,000 Rs. a year, (the value of the past average net profits) until 1847.

This Canal is greatly used for bringing firewood, chunam shells, and salt to Madras. It also opens a water communication from Madras to Pulicat, which is continued along the Pulicat lake as far as Sooloorpett, 50 miles north of Madras. The boats vary from 15 to 5 tons. The Canal requires a thorough deepening, for the hindrances to navigation are great, the water being so shallow as often to put an end to all communication by it. This accounts for the falling off of the revenue in the past Fusly 1263. The gross revenue is of course diminished by the charges of establishment, about 2,200 Rs. a year, and by the expense of repairs, which have not till lately averaged above 1,200 Rs. a year. Last year they amounted to 14,000 Rs. The annuity paid by Government ceased in 1848. Government have realized a *net* revenue of $2\frac{1}{4}$ lacs of Rs. from this Canal, since they

* Cantoopilly is at the N. end of the Ennore lake,

took it off Mr. Cochrane's hands, and it is in contemplation greatly to improve it, and to extend it northward.

Stamp Paper is furnished from the Stamp Office to the Collector, who disposes of it at the fixed value, to the inhabitants of Madras. The gross revenue in 1262 was 17,700 Rs. or 13,500 *net*, after deducting "charges." For previous years the revenue had been steady at something under 9,000 Rs. a year, but in 1853 there seem to have been some heavy suits filed in the Sudder Court, for which high value stamps were required.

TRADE OF MADRAS.

As the Export and Import trade of the Port of *Madras* would not give a proper idea of the trade of the *Presidency*, though of course the most valuable portion of the trade passes through this channel. The following Tables have been prepared with the view of showing the Exports and Imports of the whole Presidency. The IXth of these Tables shows the proportion borne by each district. Mulabar and Canara, it will be seen, have a large trade; the chief Imports into both are Cotton Goods, Metals and Salt, (the latter purchased by Government from Bombay, for their monopoly.) Their chief Exports are Coffee, Cocoanuts, Coir, Ghee, Coconut-oil, Spices, Rice, Betelnuts, Cotton-wool, Sandalwood and other Timber.

No. IX.

Imports and Exports of "Merchandise."

Names of Districts.	1852-3.	
	Value of Imports.	Value of Exports.
	Rs.	Rs.
Ganjam.....	6,501	9,94,705
Vizagapatam.....	2,14,824	11,54,126
Rajahmundry.....	1,00,647	13,23,223
Masulipatam.....	1,01,601	1,98,115
Guntoor.....	11,919	"
Nellore.....	3,412	12,603
Madras.....	74,77,517	1,02,38,029
Southern Division of Arcot..	78,411	6,00,101
Tanjore.....	9,68,912	29,95,088
Madura.....	1,57,572	3,09,449
Tinnevely.....	3,13,909	26,77,136
Malabar.....	21,56,373	53,88,122
Canara.....	11,80,634	69,59,789
	1,27,72,232	3,28,50,486

The "Imports" and "Exports" in the above Table, do not include Bullion, either Public or Private. This will be seen below :

IMPORTS.		EXPORTS.	
Private Merchandise.	1,27,72,232	Private Merchandise.	3,28,50,486
Private Bullion.....	1,08,78,112	Private Bullion.....	4,15,383
	<u>2,36,50,344</u>		<u>3,32,65,869</u>
Public Treasure*.....	7,700	Public Treasure.....	37,17,560
Company's Stores....	5,80,354	Company's Stores....	1,04,172
	<u>2,41,88,398</u>		<u>3,70,87,601</u>

The following will show the Districts which furnish the chief articles of *Export* from the Madras Presidency. It is however to be re-

* There can hardly be said to be any *import* of "Public" treasure. This 7,700 Rs. was merely a transfer from one Mofussil treasury to another.

membered that large quantities of Grain, Indigo, Ghee, Tobacco, Chillies, Oil-seeds, Sugar, and Piece Goods, are grown or manufactured for home consumption.

Betel Nut,	Bellary and Malabar.
Chillies,	North and South Arcot, and Northern Circars.
Coconut,	Malabar and South Arcot.
Coffee,	Salem and Mysore.
Coir and Coir Ropes,	Travancore, Cochin and Canara.
Cotton Wool,	Bellary, Tinnevely, Cuddapah and Coimbatore.
Cotton Goods,	Madras, Chingleput, Tanjore, Madras, Rajahmundry, Nellore, Vizagapatam, Pondicherry, and Masulipatam.
Fruits,	South and North Arcot, and Vizagapatam.
Ghee,	Nellore, Cuddapah and Malabar.
Grain,	Rajahmundry, Ganjam, Nellore and Tanjore.
Indigo,	Cuddapah, Nellore, North and South Arcot.
Molasses or Jaggery,	North Arcot and Cuddapah.
Oils,	Salem, South and North Arcot, and Cuddapah.
Saltpetre,	Nellore, Salem, and Coimbatore.
Oil-seeds,	Rajahmundry, Ganjam, and Nellore.
Skins and Hides,	Secunderabad, Bellary, Cuddapah, Trichinopoly, Vizagapatam and Madras.
Soap,	Tranquebar and Madras.
Spices,	Coorg and Travancore.
Spirits,	Madras, North and South Arcot.
Sugar,	Ganjam, Vizagapatam, North and South Arcot, and Cuddapah.
Timber and Planks,	Travancore, Coimbatore, and Canara.
Tobacco,	Masulipatam, Trichinopoly, Nellore, Cuddapah, and Chingleput.
Turmeric,	Nellore, Rajahmundry, Cuddapah, and North Arcot.
Wax and Wax Candles,	Guntur, Cuddapah, Pondicherry and Madras.
Woods (Red),	North Arcot and Cuddapah.
Sandalwood,	Vizagapatam, Canara, Malabar, and Coimbatore.

Note.—The produce of the Northern Districts are sent to Munsoorcottah, Calingapatam, Coringa and Vizagapatam for exportation.

The produce of the Southern Districts are sent to Pondicherry, Cuddalore, Tranquebar, and Negapatam for exportation.

The produce of the Western Districts are generally brought in carts to Madras for exportation.

THE CHIEF IMPORTS

From the *United Kingdom*, are Wearing Apparel, Books, Stationery, Cotton Twist and Yarn, Piece Goods dyed, printed, and plain, Earthenware, Glass-ware, Jewellery, Malt liquor, Metals manufactured and raw, Oilman's-stores, Saddlery, Silk Piece Goods, Spirits, Wines, and Woollen's

From *America*, plain Cotton Goods, Glass-ware, Ice and Timber.

From the *Persian Gulf*, Drugs, Gold Thread and Lace, Orchella weed.

From the *Cape of Good Hope*, plain Piece Goods, Flour, Horses.

From *Ceylon*, Chanks, Piece Goods dyed and plain, Camphor, Cocoa-nuts, Emeralds, foreign Silk Piece Goods, Brandy, Tobacco and Wood.

From *China*, Confectionery, Fireworks, Rosin, false Pearls, Porcelain, Silk Piece Goods and Tea.

From *France*, Stationery, Corks, Perfumery, Brandy, Champagne, Claret.

From *Mauritius*, Flour.

From *N. S. Wales*, Horses, Bolt Copper, Pipe Staves.

From *Pegu*, Terra Japonica, Cocoanuts, Paddy and Rice.

The following observations on the Trade Returns of the Madras Presidency were drawn up with a view of explaining the late increase in the import of Bullion; but they give also an idea of the increase of Trade during the last 29 years.

Years.	IMPORTS.			EXPORTS.	
	Merchandise.	Company's Bills.	Private Treasure.	Merchandise	Private Treasure.
1	2	3	4	5	6
	Lacs.	Lacs	Lacs.	Lacs	Lacs.
1821-25	101 55	00 20	44 90	176 21	4 42
1825-26	100 30	00 19	37 05	173 86	5 38
1826-27	88 16	00 08	32 74	148 77	8 98
1827-28	98 10	00 32	36 28	163 27	10 12
1828-29	91 26	00 37	26 31	166 07	9 91
1829-30	96 39	00 09	22 10	165 20	12 65
1830-31	86 82	00 16	20 37	133 53	7 85
1831-32	75 03	00 08	26 33	141 07	17 80
1832-33	91 70	00 00	25 13	140 36	26 93
1833-34	103 10	00 20	26 76	138 46	23 67
	Average 94 17	Average 0 17	Average 29 85	Average 154 74	Average 12 77
1834-35	97 72	1 13	33 42	167 00	11 06
1835-36	89 65	2 66	32 65	191 46	8 44
1836-37	105 62	30 18	33 28	221 07	9 49
1837-38	100 45	19 55	25 35	163 17	17 25
1838-39	103 48	15 14	35 28	189 72	15 66
1839-40	101 77	3 73	27 88	199 83	11 10
1840-41	113 76	6 85	30 32	198 80	10 02
1841-42	105 24	11 42	28 89	225 60	3 33
1842-43	93 66	6 17	28 68	227 00	2 82
	Average 101 39	Average 10 79	Average 30 64	Average 198 18	Average 8 39
1843-44	98 47	20 28	49 08	222 96	18 33
1844-45	142 46	24 65	65 43	268 34	7 12
1845-46	124 18	50 90	66 01	241 06	9 06
1846-47	126 67	38 53	49 60	241 08	31 30
1847-48	120 61	46 61	37 00	195 90	35 52
1848-49	124 92	17 00	26 75	197 34	22 38
1849-50	128 68	43 02	42 36	229 28	9 10
1850-51	131 66	37 77	60 42	256 37	11 97
1851-52	128 25	31 30	61 79	248 62	23 42
1852-53	127 72	52 31	108 78	328 50	4 15
	Average 124 84	Average 36 23	Average 56 72	Average 243 0	Average 17 26
	129 11	40 46	77 0	278 17	13 18

N. B.—As it is only purely commercial transactions that are now coming under notice, exports of “*Private Treasure*” only, are entered in Col. 6. There is no Public Treasure imported. But the Exports of treasure, public and private, are as follows for two years.

	1850-51	1851-52
Exports.	Rs.	Rs.
Private Treasure. . . .	11,97,691	23,42,659
Public Treasure*. . . .	33,00,000	65,12,000
	<u>44,97,691</u>	<u>88,54,659</u>

Excluding “Company’s Bills,” the Exports and Imports together, averaged 399½ lacs a year, for the 10 years, ending 1849-50; and for the last three years it averaged 497½ lacs. The last year of these three it rose to 569 lacs, as follows:

1852-53	Imports.	Exports.	Total.
	Lacs.	Lacs.	Lacs.
Merchandise..	127.72	328.50	456.22
Bullion....	108.78	4.15	112.93
	<u>236.50</u>	<u>332.65</u>	<u>569.15</u>

From the Table given in page 159, the following comparisons may be made between the *first* 10 years ending 1833-34, and the *last* 10 years ending 1852-53.

EXPORTS.

Average annual increase in Merchandise, (or 154½ to 243 lacs) Col. 5.	88½
Average annual increase in Private Bullion, (or 12½ to 17½ lacs) Col. 6.	4½
Increase in Exports.	<u>92½</u>

IMPORTS.

Average annual increase in Merchandise, (or 94 to 124½ lacs) Col. 2.	30½
Average annual increase in Court’s Bills (or 0.17 to 36½) Col. 3.	36
	<u>66½</u>
Average annual increase in Private Bullion (or 29½ to 56½) . .	27
Increase in Imports.	<u>93½</u>

* These exports have been of late years to Bengal, Bombay and Burmah.

This shows how the Bullion flowed in, to adjust the difference between the Exports and Imports; including in the latter, the Honorable Court's Bills to a large amount.

But in the last *three* years, a very great increase has taken place in the Import of Bullion, owing to the Exports of Merchandise being yet more in excess of the Imports than before.

If we compare these three years with the first 10 years, we find the case stands as follows :—

Increase in the annual <i>Exports</i> of Merchandise, (i. e.) from 154 lacs to the average of the <i>last three years</i> , Col. 5.	123·43
Increase of Treasure, from 12·77 to the average of the <i>last three years</i> , Col. 6.	0·41
Total increase of Exports.	<u>123·84</u>

Against which we have to set the following :—

Increase of <i>Imports</i> of Merchandise from 94·17 to the average of the <i>last three years</i> , Col. 2.	34·94
Increase in Court's Bills from 0·17 to the average of the <i>last three years</i> , Col. 3.	40·29
Total increase of Imports.	<u>75·23</u>
Leaving a difference of.	48·61

still to be made good; and it will be perceived accordingly, from Col. 4, that the average *increased imports of Bullion*, during the last three years *have* amounted to 47·15 lacs—(i. e. from 29·85 lacs to 77 lacs.)

Finally, if we take the *last year* of the table by itself, and compare it with the average of the first 10 years, we find the following result.

EXPORTS.		Lacs.
Annual increase in Merchandise, (154 $\frac{3}{4}$ to 328 $\frac{1}{2}$), Col. 5..	173 $\frac{3}{4}$	
Annual decrease in Private Treasure, (12 $\frac{3}{4}$ to 17 $\frac{1}{4}$), Col. 6.	8 $\frac{1}{2}$	
Total increase in Exports.	<u>165$\frac{1}{4}$</u>	

IMPORTS.

	Lacs.
Increase in Merchandise, (94½ to 127½), Col. 2.	33½
Increase in Hon'ble Court's Bills, (0·17 to 52·31), Col. 3.	52½
Total increase in Imports.	86½

The balance remaining to be made good is 79½ lacs, and it will be perceived accordingly from Col. 4, that the increased imports of Bullion are from 29½ to 108½ lacs, or 79 lacs.

Hence it appears that the import of Merchandise has not been able to keep pace with the export of the same during past years, whence we may infer, that if the exports should be much further and rapidly increased, the imports must fall short in a still greater ratio than heretofore.

Had it not been for the Honorable Court's Bills,—an import of Bullion and Treasure to the extent of 161 lacs altogether, (362 lacs within the last 10 years,) over and above what has been imported, must have taken place; and, coming from England, must have been brought to the Mint.

Should any circumstance cause a stoppage of the Honorable Court's Bills, an increase in the import of Bullion must take place, to the extent of 36 to 40 lacs per annum, even if no increased excess of exports over imports of Merchandise should happen simultaneously; but if the latter circumstance should be also called into operation, a still larger extension of the Bullion trade must ensue.

There is some probability of the event just referred to taking place, as the Honorable Court have entered into contracts with various Railway Companies, which seem likely to diminish their demands upon the Indian Treasuries. In respect to the Madras Presidency, the engagement entered into guarantees the completion of work estimated at 4 crores of Rupees, within a period of 5 years; and as the proportion of that amount disbursed within the country, will probably be about one-half, it would appear that the drafts from the Treasury will be at the rate of 40 lacs per annum. Other contracts are also in contemplation, and as the payments thus made are replaced by cash paid in London, and thus have precisely the financial (not commercial) effect of Bills, it is most probable that the Honorable Court will greatly diminish, if not altogether put a stop to further issues of the latter.

N. B.—The effect of an European war cannot yet be ascertained. The above remarks did not contemplate such a contingency.

Shipping and Tonnage, Fort St. George, 1853.

Colours.	Arrived.		Departed.	
	Vessels	Tonnage.	Vessels.	Tonnage.
English.	803	2,41,114	1,214	3,12,831
French.	178	35,172	217	38,631
American.	5	2,290	6	2,039
Arabian.	226	26,602	273	31,405
Belgian.	3	1,380	3	1,380
Bombay.	154	7,632	240	12,208
Portuguese.	173	3,076	162	2,711
Native.	4,245	1,73,010	5,070	2,19,743
	5,787	4,90,276	7,184	6,20,948

Madras or Fort St. George.

In 1611 the Company sent out a vessel called the "*Globe*" under Captain Hippon, to endeavour to open a trade on the Coromandel Coast. Surat was then their only Factory. Captain Hippon touched at Pulicat, but the Dutch Governor Van Versicke refused to let him trade there, and he went on to Masulipatam, where a Factory was established.

In 1625, two years after the massacre of the English by the Dutch, at Ambogna, their Agents at Bantam, in Java, suggested to the authorities in Europe, the expediency of directing their attention to the trade on the Coromandel Coast, and at the close of the season, despatched a vessel from Batavia to a place on the coast 40 miles north of Pulicat, where a small trading establishment was set up with the assistance of Armoogum Moodeliar, the chief man of that neighbourhood, and after whom the English gave the place a name (Armegon).^{*} To this place in 1628 the Masulipatam Factory was transferred in consequence of some trouble there with the native powers. Whether it was owing to the ill-will of the Vencatagherry Zemindar, or the place not being convenient for the inland trade in Piece Goods, the Factory did not exist long. Mr. Francis Day, who was then the chief of the Factory proposed a move to the south of the Dutch Sét-

^{*} See "Doomgarazapatnam," page 146.

tlement of Pulicat, and in A. D. 1639 an amicable arrangement was made with the local Naik or Chieftain, Damerla Venekatadry Naidoo, by which the English were to be allowed a settlement at a small Coopam or fishing village which is now Madras. It was necessary however to have a formal grant from the recognized Sovereign, who was then Stree Runga Royer, a descendant of the ancient Vyeyanuggur Kings. After their defeat by the Mahomedan Kings of Beejapoor and Goleondah, at the battle of Tellicotta (A. D. 1564), the broken remnant of royalty fell back on their more southern possessions; first to Pennaconda on the borders of Cuddapah and Bellary, and then A. D. 1594 to Chandragherry. From this place the Rayel issued his Sumnud on the 1st March 1640, granting permission for the English to build a Fort. It was one of the last royal acts of his race, for in 1646, the Kootub-Shāhee Kings of the Deccan drove him out of the country, and he became a refugee in Mysore.

It was directed in the Sumnud that the settlement should be called after the Rayel viz. Stree-Runga-Putnum, or the Town of Stree Runga; but the Local Naik wished it called Chennapa after his father, and this was done. To this day it is not known to the Natives by any other name than Chennapa-Putnum, or Chennaputnum. Why it came to be called Madras, no one can tell.

Without waiting for instructions from the Court of Directors, Mr. Day proceeded with great alacrity to the construction of a fortress, which in India is soon surrounded by a town. The latter he allowed to retain its Indian appellation, but the former he named *Fort St. George*. The territory granted extended five miles along shore and one inland.

In 1641, the money expended on the fortifications amounted to £2,294, and it was computed that £2,000 more would be requisite, and a garrison of one hundred soldiers, to render the station impregnable to the Native Powers. The garrison appears afterwards to have been much diminished, as in 1652 there were only twenty-six soldiers in the fortress.

In 1653, the Agent and Council of Madras were raised to the rank of a Presidency. In 1654, the Court of Directors ordered the President and Council of Fort St. George, to reduce their civil establishments to two factors and a guard of ten soldiers. In 1658, the Company's settlements in Bengal, were placed in subordination to Fort St. George. In 1661, Sir Edward Winter was appointed President

at Madras; but in 1665, was suspended, and Mr. George Foxcroft appointed to succeed him. On the arrival of the latter, Sir Edward Winter seized and imprisoned him, and kept possession of Fort St. George until the 22nd August 1668, when he delivered it up to the Commissioners from England, on condition of receiving a full pardon for all offences. Mr. Foxcroft then assumed the Government, which he filled until 1671, when he embarked for Europe, and was succeeded by Sir William Langhorne. This year the Sovereign of the Carnatic made over to the Company his moiety of the Customs at Madras, for a fixed rent of 1,200 Pagodas, or 4,200 Rs. per annum. In 1676, the pay of an European soldier at Madras was twenty-one shillings per month, in full, for provisions and necessaries of every kind. In Feb. 1678, Streyنشام Master, Esq., was made Governor.

Gradually other factories were established to the north eastward, and the whole of them continued under the authority of the Madras Government until 1681, when Bengal was separated from Madras.

In 1681, Mr. William Gifford was appointed Governor of Fort St. George. In the same year he was appointed to Bengal, and Mr. Yule appointed President of Fort St. George.

In 1682, the Court of Directors of the East India Company ordered the institution of a Bank at Madras, and at this time we find the servants of the Government constituting themselves a little oligarchy, regarding with jealousy and disdain all other traders, whom they designated 'interlopers,' and carrying their cliquism to such length that they accepted with gratitude an injunction from the Court that they should not intermarry with the families of interlopers! on the 12th December 1687, the population of the city of Madras, Fort St. George, and the villages within the Company's boundaries, was reported in the Public Letter to the Court of Directors, to be 300,000 persons. In 1687 Pondicherry was established by the French, and in 1689 Fort St. David was built by the English. In 1691, Mr. Yule was dismissed, and Mr. Higginson appointed his successor.

In 1698, Mr. Thomas Pitt was appointed Governor and in that year the revenue was 40,000 Pagodas, or 140,000 Rupees. But by this time questions of law began to arise among the Company, their servants, and the people with whom they had transactions. An Attorney General was therefore sent to Madras for the better regulation of the Company's interests. Still what between the Commissary Generals, and Supervisors, who were sent out to control the Go-

vernor, and the Officers of the "New London Company," who, in 1698, had obtained a Charter from William and Mary, disputes ran so high that the trade began rapidly to decline. In 1698 Fort William was built. In 1701, Mr. President Pitt expressed his fears that the Natives would bribe the Arab fleet, to assist them in blockading the garrison of Madras. In 1702, Madras was besieged by Daoud Khan, one of Aurungzebe's generals, who said he had orders to demolish it altogether. Up to 1703, gunpowder formed one of the articles supplied from England; but about this period the manufacture of it was so much improved at Madras, as to preclude the necessity of sending any more. In 1707 Calcutta became a Presidency, independent of Madras. In 1708 the Governor, Mr. President Pitt, was much alarmed by a dispute among the Natives about precedence; one party described as the *right-hand caste*, and the other as the *left-hand caste*, each threatening to leave the place, and retire to St. Thomé, if the superiority were not granted.*

The two East India Companies were united in 1708. At this period there were only 300 European settlers at Madras, of whom 200 were military.

In 1726, George I., by letters patent, established a Recorder's Court at Madras (as well as Bombay and Calcutta) for the administration of Civil and Criminal Justice. The Courts consisted of a Mayor and nine Aldermen, of whom seven were natural born subjects. The Mayors were elected by the Aldermen, and held power for one year. Appeals were allowed to the Governor in Council.

From the junction of the rival East India Companies, in 1708, we have no authentic annals of Madras until 1746, when it was besieged by the French from the Mauritius, under M. De La Bourdonnais.

The following account of the state of Madras, and the siege is taken from "Orme's History of the Carnatic."

"The town consisted of three divisions; that to the south extended about 400 yards in length from north to south, and about 100 yards in breadth; none but the English or other Europeans under their protection, resided in this division, which contained about 50 good houses, an English and a Roman Catholic Church, together with the residence of the Factory, and other buildings belonging to the Company; it was surrounded with a slender wall, defended with four bas-

* The middling and lower classes of Natives all belong to one of these "hands," and their disputes and animosity are only yet kept under by the exercise of authority.

tions and as many batteries, but these were very slight and defective in their construction, nor had they any outworks to defend them; this quarter has long been known in Europe by the name of Fort St. George, and was in India called for distinction, the White Town. On the north of this, *and contiguous*, was another division, much larger and worse fortified, in which were many very good habitations belonging to the Armenian and to the richest of the Indian merchants, who resided in the Company's Territory; this quarter was called the Black Town. Beyond this division, and to the north of it, was a *suburb*, where the Indian Natives of all ranks had their habitation promiscuously. Besides these three divisions, which composed the town of Madras, there were two large and populous villages* about a mile to the southward of it, within the Company's Territory, and these were likewise inhabited by Indian Natives.

There were 2,50,000 inhabitants in the Company's Territory, of whom the greatest part were Natives of India, of various castes and religions; amongst these were three or four thousand of those Indian Christians who call themselves Portuguese, and pretend to be descended from that nation. The English in the Colony did not exceed the number of 300 men; and 200 of these were the Soldiers of the garrison; but none of them excepting two or three of their Officers, had ever seen any other service than that of the parade; the rest of the English inhabitants, solely employed in the occupations of commerce, were still more unfit for military services.

On the 8th September 1746 the French had finished a battery of five mortars to the south, and bombarded the town without intermission until the next morning, when two English deputies went to their camp, to treat with M. De La Bourdonnais, who insisted that the town should be delivered up to him on his own terms: and threatened in case of refusal, to make a general assault. As soon as the deputies returned, the bombardment recommenced, and continued until the evening, when it was suspended for two hours, during the conference of another deputy sent from the town; after which it continued during the rest of the night.

The next morning, the 10th September, the deputies returned to the French camp, and, after some altercations, consented to the articles of capitulation, which had been dictated to them in the first conference. It was agreed that the English should surrender themselves

* Orme probably refers to Triplicane and Egmore.

prisoners of war ; that the town should be immediately delivered up ; but that it should be afterwards ransomed. M. De La Bourdonnais gave his promise that he would settle the ransom on easy and moderate terms.

The capitulation was signed in the afternoon, when M. De La Bourdonnais, at the head of a large body of troops, marched to the gates, where he received the keys from the Governor. There was not a man killed in the French camp during the siege ; four or five Englishmen were killed in the town by the explosion of the bombs, which likewise destroyed two or three houses.

All the merchandise, and a part of the military stores, belonging to the East India Company, together with all the naval stores found in the town, had been laden on board of the French ships ; these articles, according to the computation made by the French, amounted to £130,000 sterling, and the gold and silver of which they took possession, to the value of £31,000 sterling ; the half of the artillery and military stores was estimated at £24,000 sterling : all the other effects and merchandise were relinquished to the proprietors of them. It was agreed that the French should evacuate the town before the end of the ensuing January, after which the English were to remain in possession of it, without being attacked by them again during the war. Upon these conditions the Governor and Council of Madras agreed to pay the sum of 1,100,000 Pagodas, or £440,000 sterling.

M. Dupleix on the departure of M. De La Bourdonnais, had appointed one Paradis, a Swiss, to be Governor of Madras, but in a short time, the French inhabitants of Pondicherry, instructed by M. Dupleix's emissaries, assembled and drew up a representation, addressed to M. Dupleix and the Council, in which they set forth the necessity, as they pretended, of annulling the treaty of ransom. M. Dupleix, and the Council of Pondicherry, affecting to respect the general voice of the inhabitants, which they had suborned, instructed Paradis to execute this resolution. On the 30th of October, the inhabitants of Madras were called together ; the French garrison was drawn up under arms, and a manifesto addressed to the English, was publicly read. This paper contained the following declaration and injunctions.

The treaty of ransom made with M. De La Bourdonnais, was declared null. The English were enjoined to deliver up the keys of all magazines without exception : all merchandise, plate, provisions, warlike stores, and horses, were declared the property of the French

Company ; but the English were permitted to dispose of their moveables, clothes, and the jewels of the women : they were required to give their parole, not to act against the French nation until they should be exchanged ; and it was declared, that those who refused to obey this injunction, should be arrested and sent to Pondicherry. All excepting such as were willing to take the oath of allegiance to the French king, were ordered to quit the town in four days, and were prohibited from taking up their residence within the bounds of Madras, or in any of the country houses belonging to the English without those bounds.

Such injurious and distressful terms aggravated the iniquity of that breach of public faith which produced them.

The French put their manifesto into execution with the utmost rigour, and took possession of the effects of the English with an avaricious exactitude rarely practised by those who suddenly acquire valuable booties : the fortunes of most of the English inhabitants were ruined. The Governor and several of the principal inhabitants were conducted by an escort of 400 men to Pondicherry : here M. Dupleix, under pretence of doing them honour, caused them to enter the town in an ostentatious procession, which exposed them to the view of 50,000 spectators, like prisoners led in triumph. Others of the inhabitants, with several of the military Officers, resolved not to give their parole, alleging very justly, that the breach of the treaty of ransom released them from that which they had given to M. De La Bourdonnais : and these made their escape out of the town by night, and, travelling through the country by various roads, went to the English Settlement of Fort St. David, which then became the seat of the Presidency, and so continued till 1752."

The Peace of Aix La Chapelle took place in 1748, and the arrangements consequent on it reached India at the end of 1749, when Madras was restored to the English. The French, during the four years they occupied it, had considerably improved the Fort, by enlarging and strengthening the bastions and batteries. They had also demolished that part of Black Town immediately adjoining the N. wall of the Fort, and formed an excellent glacis. Another glacis had also been cleared to the south. The defences however were considered far less strong than those at Fort St. David. As far back as 1743, Mr. Smith, the Engineer, had proposed an extension of the works to the west, but it was not till 1756, when another war with the French was

expected, that his plans were carried out; they had now been approved of by Mr. Robins. About 4,000 coolies were set to work, and the fortifications were considerably strengthened by the time Lally advanced on Madras.

The second siege of Madras was conducted by Lally, and commenced in December 1758. On the 9th December Colonel Lawrence who commanded the English withdrew all his outposts to "Choultry Plain," and on the 12th into the Fort. The following description of "Choultry Plain," is from Orme, Vol. III. p. 385. The foot notes will show the localities as they exist in 1851.

"The ground so called, commenceeth about 2,000 yards south-west of the white town of Madras, or Fort St. George, from which it is separated by two rivers. The one, called the river of Triplicane,* winding from the west, gains the sea about a thousand yards to the south of the glacis. The other† coming from the north-west, passeth near the western side of the Black Town, the extremity of which is high ground, which the river rounds, and continues to the east, until within 100 yards of the sea, where it washeth the foot of the glacis and then turning to the south continueth parallel with the beach, until it joins the mouth and bar of the river of Triplicane. From the turning of the river at the high ground, a canal,‡ striking to the south, communicates with the river of Triplicane. The low ground included by the channels of the two rivers and the canal, is called the island,§ which is about 3,000 yards in circumference. 1,200 yards from the strand of the sea is a long bridge|| leading from the island over the Triplicane river, to a road¶ which continues south to the town of St. Thomé. Another bridge** over the canal, leads to the west, and amongst others to a village called Igmore, from which this bridge takes its name. Coming from the south or west, these two bridges afford the only convenient access to the Fort or white town, excepting another [access] along the strand of the sea, when the bar†† of the Triplicane river is choked with sand. All the ground

* Orme refers to the Coom near the Government House.

† Orme refers to that branch of the stream that flows under the Wallajah bridge.

‡ At the back of the Hospital. It is crossed by a bridge near St. Mary's Burial Ground.

§ It is called "the Island" to this day.

|| Where the Government House bridge now is.

Orme refers to the road through Triplicane; where it branches from the Mount Road Tannah, which was about the N. E. boundary of Choultry Plain.

** The bridge mentioned in the 3d foot note,

†† The bar near the Marine Villa.

between the St. Thomé road* and the sea, is filled with villages and enclosures; and so is that on the left, for half a mile towards the Choultry Plain, from which a road and several smaller passages lead through them to the St. Thomé road. The Choultry Plain extends two miles to the west of the enclosures which bound the St. Thomé road, and terminates on the other side at a large body of water called the Meliapore tank,† behind which runs with deep windings, the Triplicane river.‡ The road from the Mount passes two miles and a half under the mound [or bund] of the tank,§ and at its issue into the Choultry Plain, was a kind of defile, formed by the mound on one hand, and buildings with thick enclosures on the other.”

The troops in the Fort were 1,758 men of the European force, (including Officers, 64 “Topasses” or Portuguese gunners, and 89 “Cafres,”) and 2,220 Sepoys. The non-military inhabitants were 150, and they were appropriated without distinction, to serve out stores and provisions for the garrison. The Native boatmen had been retained by special encouragement, and their huts and boats were considered safe under the sea-wall. The Nawāb (Mahomed Ali, alias Wallajah) also took refuge in the Fort; (but on the 20th of February, he found his way by sea to Negapatam.) On the 15th December 1758, the day after the French troops occupied the suburbs of the Fort and Black Town, a daring midnight sally was made by Colonel Draper (well known by his controversy with Junius) and 500 picked men. He advanced on the quarters of the regiment of Lorraine which were near the present site of Putehapa’s Hall, and threw them into confusion, but failed to effect his object through the carelessness and timidity of his Drummers, who created an alarm when they ought to have been silent, and who were not to be found, when it was necessary to beat a retreat. The regiment of Lally was quartered near the beach, (about where the office of Parry and Co. is now,) and came to the rescue, on which Draper fought his way back into the Fort. Several of his officers were killed, among whom was Major Polier, who had surrendered Fort St. David, and who sought death on this occasion. Out of the 500 men, 103 were left prisoners, 50

* That is the road to St. Thomé through Triplicane

† That is the “Long Tank.” So that Choultry Plain extended from about Government House to just beyond the Cathedral. The “Plain” was probably to the west of the Mount Road, *i. e.* the space now occupied by the Divisions of Nungumbaicum and Egmore.

‡ He alludes to the Cooum beyond the Female Asylum.

§ From Moonapilly’s Choultry to near the Cathedral.

were killed, and 50 came in wounded. In this sally Count D'Estaing* was taken prisoner by the French.

Lally then engaged in his siege operations, and on the 2d of January, 1759, the Lorraine battery of 12 guns opened 500 yards north-west of the N. W. angle of the Fort—and soon after, Lally's battery, (15 guns, being 21's and 18's) which was between the present Light House and the sea, or a little more north. It was chiefly from this point that the approaches were made. There was also a battery of 4 guns subsequently raised 500 yards N. W. of the Fort, on what was then the burying ground, (close to the Obelisk or Monument, where three youths were killed by lightning in 1853.) There was also during the siege, a battery of 4 guns, a little to the east of where the General Hospital now stands. It enfiladed the north face of the Fort. The French also occupied the important position of St. Thomé, but they did not attempt much against the south or S. W. of the Fort; two 18 pounders only being brought to bear upon it, from the bar near what is now the Marino Villa.

On the 12th January a second sally was made by 200 Europeans, and 400 Sepoys, under Major Brereton, against a breastwork to the southward, which was annoying the Natives and cattle sheltered under the sea-wall. Two guns were captured on this occasion. By the 22d of January, the 4th zig-zag from Lally's battery had been worked up close up to the north-east wall of the Fort, but further progress was strongly and successfully disputed. Thus the siege continued, slackened at intervals on the besiegers' side for want of ammunition. A few men on both sides were killed almost every day, and guns dismantled. On the 8th February, the French Engineers reported a practicable breach on the salient angle of the demi bastion at the N. E. of the Fort; but the point was so well defended, no attack was attempted. About this time information was received, that Admiral Pocock's fleet was coming to the rescue from Bombay, and every effort was made by the French. On the 16th, six ships of the fleet made their appearance, and on the 17th of February 1759, the French were in full retreat, leaving behind them 52 pieces of cannon, and a quantity of military stores. Forty-four sick Europeans were also left in their hospital.

* He afterwards entered the Navy, and commanded a large squadron on the Coast of N. America, when (in 1776) he was defeated by Lord Howe.

The Fort fired during the siege 26,554 rounds from their cannon, 7,502 shells from their mortars, and threw 1,990 hand-grenades; the musketry expended 200,000 cartridges. In these services were used 1,768 barrels of gunpowder, thirty pieces of cannon, and five mortars had been dismantled on the works. There remained in the Fort, artillery sufficient for another siege, with 30,767 cannon balls, but only 481 shells, and 668 barrels of gunpowder, as many of the enemy's cannon balls were gathered in their works, or about the defences of the Fort, or found in wells and tanks in the Black Town, as the garrison had expended. The enemy consumed all the shells in the stores of Pondicherry, and threw of all sorts 8,000, of which by far the greatest number were directed against the buildings, all of which lay together: and scarce a house remained that was not opened to the heavens.

Of the European officers, one Major, two Captains, six Lieutenants, and four Ensigns, were killed; one Captain and one Lieutenant died of sickness; 14 other officers were wounded, of whom some dangerously; and four were taken prisoners: in all 33. Of the Europeans 198 were killed, 52 died in the hospital, 20 deserted, 122 were taken prisoners, and 167 were wounded; in all 559; but many of the wounded recovered. Of the Lascars, who were natives assisting in the artillery, 9 were killed, and 15 wounded. Of the Sepoys, including officers, 105 were killed, 217 wounded, and 440 deserted. The loss in Europeans was more than reinstated by the troops brought in the ships.

The Governor, Mr. Pigot, as soon as the enemy disappeared, relinquished the special authority which had been vested in himself, to the usual administration of the Council, of which he was President; and received their thanks for the good effects of his resolution and activity during the siege: he had visited the works every day, encouraging the garrison by his presence, and rewarding those exposed to severer services with money. Provisions of all kinds in abundance, and of the best condition, had been laid up, and as well as all the military stores, were distributed from the different magazines, under the direction of the Members of the Council, assisted by the inferior servants of the Company, whose habits of business established and continually pressed these details free of all let and confusion.

The loss of men sustained by the French army is not known. There were 2,700 firelocks when they advanced on Madras, and M.

Lally in an intercepted letter during the siege, mentions his having 2,000 Europeans. The sepoys with him were not more than 1,000.

The attempts made by the English forces in the interior, to assist Madras during the siege, were feeble. In fact, almost all our troops were in the Fort. Captain Preston, however, with our Mahomedan partizan, Mahomed Issoof, made an attack on the French quarters at St. Thomé in January. Owing to the cowardice of the division under Mahomed Issoof, though he personally was the best Native officer in the war—failed, and Preston fell back on Arcot to raise fresh levies. Major Calliand also came up in February, with a detachment from the south, accompanied by several of the Nawab's troops; and on the 7th a sharp engagement took place at the Mount, the French having unsuccessfully attacked Calliand's position. Calliand however was obliged to fall back on Chingleput, and was not able to render any effectual assistance, till the French forces were on their retreat.

The disputes with the French, who espoused the interests of certain Native powers, caused the English, in like manner, to identify themselves with the political interests of rival princes. Success gave them new privileges, and at length in 1763, they insisted upon receiving from the Nawab the revenues of some districts in the Carnatic, in order to enable them to keep up the armies which had become necessary. From this date the political, military and fiscal authority of the Government of Fort St. George rapidly augmented. In 1773-4, their revenues and subsidies amounted to £287,302—and the Coast (or Madras) army was 20,000 strong, of whom 3,486 were European Infantry, 581 Artillery, and the remainder (excepting 68 Cavalry) sepoys.

In 1801, the Recorder's Court of Madras was converted into a Supreme Court of Judicature.

From Calcutta to Madras is 1,044 miles; the common post takes eleven days, but it has been done by express in nine. The travelling distance from Madras to Bombay is 820 miles.

General Aspect. The aspect of Madras, which is a place of great resort, owing to its position as the port of arrival for all

those persons who are nominated to the Civil and Military service of the Government, and to its commercial importance, is in every respect most uninviting. The land is low, and no range of mountains fills up the back ground and relieves the landscape. A heavy swell rolls on to the shore, and this, as rendering the navigation of the boats

through the surf a matter of some hazard at times, lends to the scene the only excitement of which it is susceptible.

There are no hills nearer to Madras than those of St. Thomas' Mount and Palaveram to the south-west, respectively distant 8 and 10 miles ; and the Pulicat hills distant between 25 and 30 miles in a north-westerly direction.

The town of Madras generally called the Black Town, is somewhat square in form, and extends along the beach, north and south, for nearly a mile. It is enclosed on the northern and the western sides by a strong wall, which, in by-gone days was mounted by several pieces of cannon, and well flanked. The Bank, Supreme Court, Custom House, Marine Board, and Merchants' offices, constitutes the *façade* upon the beach. South of Black Town, and separated by an open space, called the Esplanade, is the Fort. Further to the south and south-west, at distances from 2 to 5 miles are scattered the Houses and Gardens of the European gentry. The population of Madras, including the suburban villages is 750,000 souls. The Fort, (the whole of which is surrounded by a strong wall and defended by batteries, bastions, &c.,) is reckoned the finest in India : it is almost a regular square, well fortified and containing all the principal public offices. Here also is the Council House, where the Members of the Government meet for the transaction of business ; —the Church—the Barracks for the troops of the Royal Army—the offices of the Board of Revenue, Accountant General, Civil Auditor, Adjutant General, Quarter Master General, Military Auditor General, &c.,—and other edifices. On the parade ground facing the Council House, is a stone canopy, containing a large marble statue of the Marquis Cornwallis, standing upon a pedestal of the same material, decorated with groups of figures in alto-relievo, representing the surrender of the sons and suite of the once renowned Tippoo Sultaun.

On the Mount Road, between the Fort and St. Thomas' Mount, eight miles distant, where the Artillery are quartered, are the Horticultural Gardens, and further on, a Cenotaph, erected to the memory of the Marquis Cornwallis, within an area enclosed by an iron railing cast from the cannon taken at the siege of Seringapatam in 1799, by the troops under his Lordship's command.

The only other public buildings of any moment are, the Government House, the Cathedral on the Mount Road, and the Vepery Church. There is also a beautiful and well situated equestrian statue,

by Chantrey, of Sir Thomas Munro, once Governor of Madras. The Churches and Chapels are numerous, and represent every phase of Christian faith.

The Black Town, or that part of Madras comprehended within the walls lies very low. It is in some places actually below the level of the sea, against the inroads of which, it was found necessary some years ago to protect the town by a strong stone bulwark. Three broad streets intersect the town, running north and south, dividing it into four nearly equal parts. They possess an air of respectability, are well built, and contain many terraced, upper roomed dwellings. Among the buildings are the principal European shops, Putehoappah's Native School, the Commissariat Office, Jail, the Black Town Male and Female Orphan Schools, Church Mission Chapel, Black Town Church, Wesleyan Chapel, Free Church Mission House, &c. The minor streets, chiefly occupied by the Natives, are numerous, irregular, and of various dimensions. Many of them are extremely narrow and ill ventilated. The form of these houses resembles that of most of the Native dwellings throughout India; it is a hollow square, the rooms opening into a court yard in the centre, which is entered by one door from the street. This effectually secures the privacy so much desiderated by the Natives, but at the same time it prevents proper ventilation, and is the source of many diseases. The streets, with few exceptions, have drains on both sides which are deep and narrow, and besides there are three common sewers running from the eastern part of the town towards the sea. The system of drainage, however, is far from perfect, and the *fall* to the sea very slight.

Water Supplies. Madras is amply supplied with water of a remarkably pure and good quality, from wells varying in depth from 20 to 30 feet. The water obtained from the wells in a certain enclosure near the north, well known as the "Seven Wells," is especially valued for its purity, which is preserved for a length of time at sea. The wells are 10 in number, though some are choked up. Only 2 are in use, and these alone yield 264,000 gallons in 24 hours. Public water works are erected in this enclosure, and two reservoirs have been constructed, one in the Fort, the other midway between the Fort and the Town, which are daily filled from the wells by means of metal pipes. The purity and wholesomeness of this water seem to depend on its being filtered through a bed of fine quartzose sand, which is several miles in length measured from north to south, but

only three or four hundred yards in breadth, its depth varying from one to fifteen feet; in some places it is covered to a considerable depth with red clay and sand. It has been found, in digging wells in this stratum of sand, that if it be passed through, the water obtained below is of an inferior quality, and frequently brackish. Besides the wells, are numerous tanks, some of which are of great extent, such as the Long or Mylapore tank, and Spur or Egmore tank. A few of them contain good water derived from springs, but the greater part are filled by the rains during the monsoon, and only answer for partial irrigation; as the hot season approaches they dry up.

The markets of Madras are well supplied with beef, mutton, veal, kid, &c. of a fair quality, and at moderate prices. Fowls, capons, ducks, turkeys, geese, &c. are also plentiful. There is an ample supply of excellent fish of different kinds; and vegetables of every variety such as potatoes, turnips, carrots, cabbages, knolkole, beans, greens, sweet potatoes, yams, onions, salad, brinjals, cucumbers, and gourds. Rice and all the other grains of the country are of course abundant. Fruits are likewise plentiful. The mangoes, plantains, pine-apples, custard-apples, oranges, grapes, jack-fruit, and guavas, are of an excellent quality.

Three respectable Family Hotels have lately been set up near the Mount Road, and there is a Club which is, from the completeness of its arrangement, and the economy of its charges, a great accommodation to the residents, and visitors of the town.

Education has not made the same progress at Madras as at the other Presidencies. A few years ago the University was founded by Lord Elphinstone for the particular advantage of the Hindoos, but it has not been sufficiently made use of by the Natives. This is the more to be lamented and wondered at, because some of the greatest men India ever knew, have so often borne testimony to the invaluable assistance Natives are capable when educated, of rendering to the State.

One of the strongest proofs of the active and philanthropic character of the European and Indo British population of Madras is to be traced in the number of excellent establishments, some supported by Government, but ~~most~~ by private contribution for the relief and advancement of the ~~human~~ race existing in the town. There is an Infirmary for the purpose of receiving and affording medical aid to the Native poor of the Presidency; a General Hospital for the reception

of both European and Native sick; a Medical School; a Lunatic Asylum; an Eye Infirmary; a Lying in Hospital; a Male and a Female Orphan Asylum (Military); Missionary, Protestant Charity, Free, and Grammar Schools; an Institution for the education of the daughters of Europeans and their descendants; Literary and Horticultural and Native Education Societies; Polytechnic Institution; Masonic Lodges; Friend-in-Need, and Temperance Societies, &c. &c. There are likewise numerous Religious Societies, founded with the view of diffusing the light of the Gospel among the heathen, and giving religious as well as secular instruction, to many hundreds of East Indian and Native children of both sexes.

Villages near Madras. There are several villages in and about Madras which are now comprehended in the town itself. These are Royapooram, Vepery, Chintadropettah, Triplicane, Royapettah, and St. Thomé.

Royapooram.

Royapooram is situated outside the walls, on the north side of Black Town, at the distance of about a quarter of a mile, and extends for one mile along the beach. The inhabitants are chiefly fishermen and boatmen; amounting to about 8,000, they are persons of low caste, and many of them are Roman Catholic Christians. They live in huts of an inferior description, having mud walls and cadjan (dried palmyra leaves) roofs.

From the filthy condition and poverty of the inhabitants, disease, when it appears in an epidemic form in Madras, invariably causes great havoc in this village. The families are badly clothed and fed; the children are small and unhealthy; it is calculated that two-thirds of them die before attaining the age of maturity.

Vepery.

Vepery, including the village of Pursowaukum, lies to the west of Black Town, being separated from it by a spacious open esplanade about half a mile wide; the principal streets are well built, provided with drains, and kept clean, but the cross streets and lanes are close, and often filthy.

One of the Native regiments of the garrison is stationed in Vepery.

Chintadrepettah.

Chintadrepettah adjoins Vepery. It is separated from it only by a ditch called the river Cooum, a bend of which almost encloses Chintadrepettah. The inhabitants are principally Hindoos. The houses in Chintadrepettah are regularly built in streets, with drains on each side, and the village generally has a cleanly appearance, except in the outskirts. A public Dispensary is situated in the town, and the diseases show the nature of the various distempers generally prevailing throughout Madras. The populous villages of Poodoopettah and Egmore, lie nearly due west of Chintadrepettah, the former being on the opposite bank of the river, and the latter at the distance of about half a mile west of Poodoopettah.

Triplicane and Royapettah.

Triplicane, a large village or rather town, runs parallel with the sea about one mile south of the Fort, from which it is separated by the esplanade, the Cooum river, and the Government gardens. Here the Nabob of the Carnatic, generally resides, his residence, called the Chepauk palace, being situated at the north-east end of the town, close to the sea beach. Government House adjoins the palace, the ground being only separated by a road and wall.

The inhabitants are chiefly Mahommedans, most of whom are followers, or dependants of the Nabob. The principal street or bazaar, is wide, having drains at either side; but the back streets are confined, and many of them without drains, they are filthy and offensive, and it has consequently been observed that when epidemic diseases appear, the inhabitants of these localities suffer considerably more than those in other situations.

South-westward of Triplicane, and adjoining to it, is situated the extensive and populous village of Royapettah, which is inhabited by a mixed population consisting of Mahommedans, Hindoos, and East Indians.

St. Thomé.

Saint Thomé lies about three miles to the southward of the Fort close to the sea; and is called by the Natives, Mylapore, or "the city of peacocks." The inhabitants consist of Hindoos, Mahommedans, and Roman Catholic Christians, these last being a very dark complexioned race, ~~between~~ Portuguese and Natives. The parts laid out in streets are generally clean, and in good order; there are several extensive cocoanut and plantain gardens in the vicinity, and some

unappropriated or waste ground, both in and around the village, which give it a straggling and unconnected appearance; the situation of the village however, close on the sea beach, is considered favorable for European convalescents, and from its salubrity, it has for many years past been the resort of sick officers from inland stations.

The Garden houses of the principal European residents of Madras are situated in separate enclosures called *compounds*, surrounded each by a hedge, and extend from three to four miles inland. They are generally of two stories, constructed in a pleasing light style of architecture, terraced, with porticoes and verandahs supported by pillars. The lower story is often raised several feet from the ground; the doors and windows are large, and provided with venetian blinds so as to admit free ventilation; and the apartments are lofty, spacious and airy. The compounds are usually planted with trees and shrubs, and when viewed even from a height, the tops of many of the houses only can be seen; these plantations interrupt due ventilation, but the evil is tolerated, in consideration of the protection they afford from clouds of dust arising from the public roads and parched sandy soil, during a great part of the year. Groups of Native huts are seen interspersed here and there, in the vicinity of the Garden houses.

The common sewers, drains and streets of the several divisions are kept tolerably clean by the Assessment Department, with the aid of the Police, and all encroachments upon the public streets, such as small huts, pandals, verandahs, &c. tolerated in former years, have been removed, and are now strictly prohibited. The roads are wide and kept in good order. They are partly under the charge of the Assessment Department, and partly under the Superintendent of Government Roads.

The material is generally laterite, (a kind of tough ferruginous conglomerate,) though granite is laid down at some points.

Madras has a regularly constituted Police establishment, under the regulations of which department the town has in many respects much improved. The establishment is exclusively composed of *peons*, placed under European superintendence, and formed into 7 divisions; two being placed in Black Town, and one in each of the principal villages already described.

~~The~~ The European force at Madras has for many years past been one regiment of Her Majesty's Infantry, and two ~~companies~~ of Artillery, all of whom are quartered in Fort St.

George, which is an irregular polygon, somewhat in the form of a semi-circle, running north and south, and presenting a clear front on the sea-face of five hundred yards. The sea flows to within a few yards of the ramparts, which are fenced by an artificial barrier of stone work from the influence of the surf and tide; the foundation of the works on the sea-face contains a series of cisterns, which are filled with fresh water from the well formerly mentioned, as situated at the northern extremity of Black Town.

The troops forming the Native part of the force, are usually three regiments of Infantry, which are hutted, one at Vepery, a second at Perambore, and the third, a veteran battalion, is located in Black Town.

The Head Quarters of the Artillery are at "the Mount," 8 miles from the Fort.

The Governor's Body Guard which consists of two troops of Cavalry, occupy lines situated on the west part of the *Island* close to Government bridge adjoining the Camp Equipage Depôt, and are separated from the village of Chintadrepettah by the river Cooum. The men are allowed to live in any of the surrounding villages, no hutting ground being allotted for them.

The following "Abstract" of several years observations, Climate. will exhibit the fluctuation of the climate of Madras.

MONTHS.	5 A. M				2 P. M				6h. 30m. P. M.			
	Dry Bulb	Depression of Wet Bulb.	Per centage of Humidity	WIND.	Dry Bulb	Depression of Wet Bulb.	Per centage of Humidity	WIND.	Dry Bulb	Depression of Wet Bulb.	Per centage of Humidity	WIND.
January....	71.0	3.0	84	N. S. E.	81.5	8.0	69	N. E. S. E.	77.5	6.0	75	N. E.
February .	72.5	3.5	84	{ N. E. S. W.	83.5	9.5	64½	E. S. N.	79.5	6.5	74	{ E. S. N. S. E.
March	76.5	3.5	85	S. S. W.	88.0	10.0	64	S. E.	83.0	7.0	73	S. E.
April.....	81.5	3.5	86	S. S. W.	91.5	11.0	63	S. S. E.	86.0	6.0	77	S. S. E.
May.....	83.0	5.0	80½	S. W.	93.0	13.0	57	S. S. E.	87.5	7.0	74½	S. S. E.
June.	83.0	6.5	75	S. W. S. W.	95.0	15.0	55	S. W.	88.0	8.0	71	S. S. W.
July.....	81.5	7.0	73	W. S. W.	93.0	14.0	54	W. S. W.	88.0	8.0	71	S. S. W.
August. ..	81.0	5.0	80	S. W.	91.0	12.0	59½	S. W.	86.0	7.0	74	S. S. E.
September	79.5	4.0	83½	S. W.	88.5	9.0	68	S.	84.5	5.6	79	S. S. E.
October. ..	77.5	3.0	87	{ S. W. N. S. W.	85.5	7.0	74	{ S. E. N. E.	82.5	5.0	80½	{ S. E. N. E.
November.	75.0	2.5	89	N.	83.0	9.0	63	N. E. S. N.	79.0	5.5	78	N. N. E.
December.	73.0	5.0	78	N.	81.0	7.5	71	N. E.	77.5	5.0	79½	N. N. E.

The Average fall of rain at Madras.

	Inches	
January.....	1	On the 21st October 1846, there fell 17 inches in 12 hours, and
February....	0½	3½ inches the previous 12 hours. The whole country flooded.
March.....	0½	The fall of rain in a <i>continuous downpour</i> during the Monsoon
April.....	0½	is about 3½ inches in 12 hours.
May.....	2	
June....	1½	The strength of a mild sea breeze is about ¼ lb. on a square foot.
July.....	3½	Fresh sea breeze ¾ lb. A gale of wind such as the Cape hard South
August.....	4½	Easters press about 8 lbs. on the square foot, with <i>gusts</i> of 20 lbs.
September....	5	The English Channel severe Winter gales about 10 lbs. with occa-
October.....	10	sional heavy gusts of 24 lbs.
November....	14	During the Hurricane at Madras in Nov. 1846 the pressure at
December....	6	one time was calculated to have been 67 lbs. on the square foot!
	49	

The *barometer* is highest in January, (about 30.1) and lowest in June, (about 29.8.) The difference is about 3 tenths of an inch. The greatest average *daily* range (.130) occurs in March, and the least (.106) in December. The 4 daily barometrical tides are as follows: the principal *maximum* is at ¼ past 9 A. M.; the excess above the mean being .060: the principal *minimum* is about ¼ to 4 P. M., being .060 below the mean. There are two minor tides in the night; the maximum at 10 A. M., the minimum at ¼ past 3 A. M. The mean height of the barometer, (11 feet above the level of the sea), is 29.965 inches.

The maximum *temperature* observed, in the shade, is 107.8, (but there is always some reflected heat,) and in the sun 120°: the minimum temperature is 63.5. The thermometer is at a maximum at ¼ past 1 in the cooler, and 2 P. M. in the hotter months: the minimum is ½ an hour before sunrise. The *evaporation* is about 3 tenths of an inch in 24h., in the cooler months, and 4½ tenths in the hotter. The mean temperature of the whole year, day and night, is 81.7 degrees of Fahrenheit.

The course of the *winds* is as follows:—In January, and Winds. till about the middle of February, N. E. winds prevail; then S. E. and southerly, till the middle of May, when the land winds set in, and continue at about W. S. W. till September, relieved by sea breezes in the evening, which die away about 10 P. M. In September to the end of October, the winds are light and variable from S. W. to S. E. with calms. About the last week of October the N. E. monsoon sets in with heavy rain and lightning. The rainy season closes in

December, but the *wind* continues at N. E. till the end of January. Between the intervals of rain, the weather is beautifully fine and clear. Rain hardly ever falls in February or March.

Madras has been occasionally subjected to severe *Hurricanes*, generally in the early part of May or the end of October. They seem to travel up from the E. S. E. and progress rapidly in a W. N. W. direction till they touch the land, and then they assume a westerly or sometimes W. S. W. course. Their centres generally come *right on* to the Port of Madras. A hurricane has seldom been known to extend south of Porto Novo, 120 miles from Madras,* or north of Nellore, 100 miles from Madras. Their diameters are about 150 miles, and they revolve in a direction contrary to the hands of a watch, as do all Cyclones north of the equator. When the hurricane's centre comes right on to Madras, and there takes a west course, the wind is first at N. increasing in violence for a few hours, and then a lull, or awful calm for half an hour or so, when the hurricane recommences furiously from the exactly opposite quarter, south. This is in accordance with the theory of cyclones. Usually the gale commences about N. N. W. showing that the vortex of the cyclone bears about E. N. E. Vessels, therefore, warned by the barometer, the hollow breaking surf, the threatening sky, and the signals of the watchful Master Attendant, should at once put to sea; (having previously close reefed, and sent down top-hamper) The course to steer, and fortunately it is one which the wind assists, is S. S. E. to S. E. In a few hours the vessel will probably have the wind moderate at west, and may—in fact it has been done—*sail round* the cyclone, the wind veering to south, and then to east. Vessels at first steering *east* to get away from the land, have run right into the vortex of the hurricane! The only danger in a southerly course is from the *storm wave* setting the ship on shore. If the lead gives notice of this, the ship must be hauled up more to the eastward.

If the gale commences N. N. W. at Madras, and ends at S. E., as has often happened, it shows that the centre has taken a W. S. W. course, and passed a little to the south of the town; but if it ends at S. W., it shows that the centre has taken a W. N. W. course, and the vortex passed to the north of Madras.

It may be interesting to mention some of the earliest notices that we have of hurricanes on this coast.

Out at sea, they are met with as far south as Ceylon.

The first one of which we have any record, was that of the 3d October 1746, twenty-three days after the surrender of Madras to M. De La Bourdonnais. On the 2d of October, the weather was remarkably mild during the whole of the day; but, about midnight a most furious tempest arose which continued with great violence till noon of the following day. When it began, there were six large French ships in the Madras Roads, and some smaller ones. The *Duc d'Orleans*, *Phoenix*, and *Elys*, put to sea and foundered; and in them upwards of twelve hundred men were lost. The *Mermuid* and *Advice*, prizes, shared the same fate, the *Achille*, (the Flag-ship of M. De La Bourdonnais) and two other vessels of war were dismasted; and they had shipped so much water, that the people on board expected them to go down every minute, notwithstanding they had thrown overboard the lower tier of guns. Of twenty other vessels belonging to different nations, in the Madras Roads, when the storm began, not one escaped, being either wrecked or lost at sea. The ships which were at anchor in the Road of Pondicherry, felt nothing of this hurricane.

Another hurricane occurred off Cuddalore on the 13th April 1749. (It is rare to meet with hurricanes before May.) The English army were then on their march to Tanjore, to set Sahjee on the musnad, and depose Pretaub Sing. Admiral Boscawen had agreed to send some ships to escort the troops, cannon, and stores, to the place at which they designed to disembark them, which was at Devicottah, south of the Coleroon river. A dreadful hurricane at N. N. W. came on on the night of the 12th of April, and continued all the next day. Its greatest violence was between eight at night of the 13th, and at two the next morning, shifting round from the northward to the east, till it came to the south, where it ended. In this storm H. M. Ship the *Pembroke* (one of those appointed for the above service) was driven ashore and wrecked on the Coleroon shoal, a little off Porto Novo. The Captain, all the Officers, (except the Captain of Marines and Purser who were ashore on leave), and 330 men, were drowned, only 12 men being saved. In the same storm the 74 gun ship "*Namur*" (Boscawen's flag-ship) foundered in shoal water, not far from Devicottah. The 1st, 2d, and 4th Lieutenants,—Master,—Gunner,—two Lieutenants of marines,—and 520 men were drowned; only two midshipmen and 24 men were saved: the Admiral, Captain, and some other Officers were on shore. The *Lincoln* and *Winchelsea* E. I. C. Ships were likewise wrecked off Fort St. David, but the

crews were saved. Almost all the small vessels that were near Fort St. David were lost. H. M. Ships *Tartar* and *Deal Castle*, together with the *Swallow* sloop, being at sea, and more to the southward, did not feel the tempest in that violent degree with which it raged near the Coast; but they were all dismasted. The rest of the fleet were fortunately at Trincomalee. The English camp was at that time some miles from Porto Novo, and was so devastated that the army were obliged to march to Porto Novo to refit.

Orme mentions a hurricane on the 31st October 1752, as "the most violent that had been remembered on the Coast."

The new year of 1761 was ushered in with a most violent hurricane at Pondicherry. At this time the English were laying siege to that town, and the fleet were in the Roads intercepting all succour by sea. When the storm began, Admiral Stevens had with him eight sail of the line, two frigates, a fire ship, and a ship with stores. From 8 p. m. of the 31st December, till 10 p. m., there was a constant succession of very heavy squalls. About 10 p. m. Admiral Stevens, in the *Norfolk*, (having for his Captain the gallant and unfortunate Kempenfelt,) was forced to cut his cable, and made the signal for the squadron to do the same. But the noise and violence of the gale was such, that no guns could be heard, or signals observed. The other Commanders accordingly obeyed previous orders, and continued at anchor, till at length their vessels parted, and then with the greatest difficulty they got their ships before the wind, with scarce any sail set. The gale continued to increase until midnight, by which time the wind had veered from N. N. W. where it began, to the N. E., and in an instant it was succeeded by a *calm*, attempted by a thick haze. This was of short duration; for in the space of a few minutes, the storm burst from the S. S. E. and raged with redoubled fury. Had the squadron got under sail, and proceeded to sea early, they would have had an opportunity of gaining sufficient sea-room, before the storm came from the S. E. The first gust of this fresh hurricane laid the *Panther* on her beam ends, when the sea breaking over her, Captain Affleck ordered the mizen-mast to be cut away; this not relieving the ship, he ordered the main-mast to be cut away likewise; it broke below the upper deck with such force, that it tore it up, and the mast and rigging hanging over the side, continued to encumber the ship for a considerable time, until a heavy sea cleared them. The ship then righted; and, the reefed fore-sail having withstood the violence of the gale, by means of it, they got back into fourteen fathoms water, and there

let go the sheet anchor; but not bringing up, they cut away the fore-mast, the fall of which carried away the bowsprit, when the ship came round, and in this manner rode out the storm. The *America*, *Medway*, and *Palmouth*, were dismasted, and after much distress came to an anchor near the *Panther*. But it did not fare so well with the *Newcastle*, the *Queenborough* frigate, and the *Protector* fire ship, who scudding before the S. E. gale, mistook their soundings, and drove towards the shore without endeavouring to come to an anchor. The roaring of the wind prevented them from hearing the noise of the surf, till it was too late. All three came ashore about two miles south of Pondicherry. Of their crews only seven perished, who were dashed overboard by the violence with which the ships struck when they took the ground. A more miserable fate attended the *Duc d'Acquitaine*, the *Sunderland*, and the *Duke*, store ship. Their masts withstood both hurricanes, but they were driven back by the S. E. tempest, and were under the necessity of anchoring; when, bringing up with all their masts standing, they broached to, and either capsized or foundered. The crews, in number eleven hundred, perished, except seven Europeans, and as many lascars, who were next day picked up, floating on pieces of wreck.

On the 21st October 1773, a violent hurricane visited Madras. It began at N. W., and ended with the wind easterly. (It must have travelled S. W., and the vortex passed south of Madras.) The men-of-war put to sea early, but all the vessels that remained at anchor, were lost, with their crews.

The next hurricane of which we have to notice, is that of 1782. The weather had been threatening, and when it came on to blow, on the 20th October, the boats belonging to Sir E. Hughes' squadron, (then in the Roads,) were on shore with their crews, on duty. The gale commenced at N. W., and every vessel that could bear canvass, put to sea. Most of the men-of-war boats put off to their ships, which were getting under weigh and were reached with difficulty by the larger boats, and some of the smaller; but some boats were unable to reach their vessels, and were lost. The *Superb* was dismasted, and the *Exeter* was almost rendered a wreck. Sir Edward Hughes was obliged to shift his Flag to the *Sultan*. Both the *Superb* and *Exeter* got to Bombay with jury masts. The *Neckar*, (a country vessel), lost her main mast, and some vessels foundered at their anchors. The morning following the hurricane, presented a sad spectacle. Upwards of

100 small country vessels stranded on the beach. The whole remaining stock of rice in the warehouses washed away! Famine raging, and pestilence threatening! For the ravages of Hyder had driven thousands from the country to Madras, where already there had been great suffering for want of food. Upwards of 1,000 corpses were buried every week for several weeks, in large trenches outside the Town. The Governor (Lord Macartney), used noble endeavours to mitigate the calamity, and set an example by sending away all his own horses and servants. Hyder was at Pondicherry, and the Admiral's fleet gone! Ships however came in laden with grain from Bengal, Hyder Ali died in December, and the hopes of the English revived.

The records of the Madras Observatory notice a heavy gale on the 27th October 1797. The Barometer did not fall below 29·465.

On the 4th December 1803, H. M. Ship *Centurion*, (of 50 guns, bearing the Flag of Admiral Rainier), on her passage from Trincomalee to Madras, experienced a violent hurricane, which left her with nothing standing, but the bowsprit; and had nearly proved her destruction. The gale commenced about midnight; at 11 A. M. on the 5th, the wind flew round in a violent gust to the southward, and till 6 P. M. it was blowing a hurricane. H. M. Ship was so severely strained that she had eight feet water in her hold, and her upper deck guns were obliged to be hove overboard. Jury masts were rigged, and on the 11th the *Centurion* anchored in the Madras Roads. H. M. S. *Albatross* was dismasted in the same storm, and put in at Negapatam to refit.

Madras suffered from another hurricane on the 10th December 1807. Fortunately there was only one vessel in the roads when the storm commenced, and she put to sea. To show the effect of the storm waves, it may be mentioned, from the testimony of an eye-witness, (Capt. Biden, our respected Master Attendant) that the bottom of a ship, of 800 tons supposed to have been burnt in the roads about ten years before, (in 1797) was washed high and dry on the beach near Parry's Office; the whole of her floor was perfect, with a large quantity of her ballast, (pigs of iron kentledge.) The devastation along the beach and in the town and suburbs of Madras was very great. It was during this hurricane that there occurred an extraordinary rise of the tide, which inundated the whole of Black Town.

Another most disastrous hurricane occurred on the 2d of May 1811.

Providentially the Fleet with the troops for the attack of Java, had just sailed. The *Dorset* frigate, and *Chichester* store ship, remained in the roads; they parted, and were lost; ninety country vessels went down at their anchors. Only two vessels that were in the roads, when the hurricane set in, were saved, and these put to sea. During this hurricane the surf broke in 9 fathoms water, four miles from shore!

On the 24th October 1818, Madras again suffered. The wind commenced at north, and after increasing in violence suddenly lulled, and as suddenly flew round furiously to south. This hurricane travelled west, and its vortex passed over the town. The barometer fell to 28.78.

On the 9th October 1820, there was a hurricane commencing at N. W., veering to W. and S. W. The barometer fell to 28.50. Here the cyclone travelled west, and passed to the north of Madras.

On the 30th Oct. 1836, a gale set in from north. At 4 p. m. it blew a regular hurricane from N. N. W. and N. After an ominous lull of half an hour, it flew round with redoubled violence from the south, at $\frac{1}{2}$ past 7 p. m. At this time the barometer was 28.285. On the 29th October at noon it had been 30.050

30th October at 6 A. M. 29.910

30th October at noon. 29.707

30th October at 5 p. m. 28.891

30th October at 7h. 30m. p. m. 28.285

At midnight when the gale broke, 29.415

In October 1842, there was a heavy gale, but hardly considered a hurricane.

In May 1843, another hurricane occurred. On this occasion the brunt of it was felt out at sea, and several vessels were lost. Those that remained at their anchors rode it out.

The next hurricane took place on the 25th November 1846.

It was during this hurricane that the pressure-plate of the Observatory anemometer broke, at a pressure of 40 lbs. registered; and the force of *one heavy gust* was computed at 57 lbs. per square foot! The large iron wind-vane of the Observatory was bent to a right angle, and one of the flat piers on the Elphinstone bridge blown over. These formed the data for computation. The previous month, there had been an unprecedented fall of rain: (20 $\frac{1}{2}$ inches in 24 hours.) Had the hurricane set in before the soil had dried, not a single building or tree in Madras, would have remained upright.

MADRAS ROADSTEAD.

There is no harbour at Madras, but only open roadstead. The holding ground is good, but there is generally a heavy swell from seaward, especially if the wind remains long at east.

In coming in from the southward, vessels may safely keep close in shore, but in coming from the northward, the Pulicat shoal, 14 miles north of Madras, is to be avoided at night; the Madras Light can be seen from the deck of a 600 ton ship at this distance, and should not be brought to bear to the southward of S. S. W. $\frac{3}{4}$ W.

The only time of danger in the Madras roads is during a hurricane, which happens about once in 8 or 10 years,*—and also when it blows hard for any length of time from about E. N. E.; this is rare, but on those occasions so heavy a sea sets in that few vessels can ride it out; and the wind being dead on shore, it is not easy to get under weigh so as to clear the surf. Many vessels and lives have been lost in these short easterly gales which seldom last more than 12 hours, and do not affect the Barometer at all, whereas that instrument always gives timely notice of a *hurricane*.

In fine weather, the surf breaks about 300 feet from the shore, and in the monsoon, or in squally weather, about 450 feet. When it blows hard from the eastward it breaks nearly 1,000 feet from the beach, but on these occasions it is difficult to distinguish the break of the surf from that of the sea. In ordinary weather the surf-wave is not above 3 feet high; in rough weather about 6, and during a gale, 12 or 14. When the land wind blows dead off shore, the surf-wave is often very high, but then there is only one slow heavy roller, and boats can lay by for it, better than when the surf is lower, but quick following and confused. There is not that danger in crossing the Madras surf that is often supposed. Return cargo boats now and then get swamped through negligence, but accidents in passenger boats are almost unknown. Occasionally fool-hardy people will attempt the surf in spite of signals, and then they must expect misfortune. Coming on shore in a heavy surf, is more dangerous than going off, as it is more difficult to keep the boat end on. The “masoolah” boat, though awkward in appearance, is the only kind of boat that is fitted for the surf, and is not injured by thumping on the sand in landing. They can carry about 1½ tons of dead weight.

From April to September there is generally a strong current from

* See preceding pages.

the south. In November it sets in from the north, and is generally at its maximum strength the first week of November; it has been known to set 3 miles an hour, and the average is $1\frac{1}{2}$. It is stronger in shore than in the offing, and in the afternoon than in the night, or early morning. It is when it blows fresh, with a strong current, that the surf is impassable.

The rise and fall of the Tide is about 3 feet at Full and Change, and about $1\frac{1}{2}$ feet at the Quarters. During a heavy gale from the eastward, the sea has been known to rise 6 feet, and in the hurricane of December 1807 it rose 10 feet, so that it washed over, and destroyed the whole roadway. High water is 5 hours before the Moon's culmination.

The following "Soundings" were taken at the time it was proposed to throw out a Pier or breakwater. They were taken at low water, and with so much care and precision, that they may be relied upon.

100 feet from the coping stone of the road, dry sand on the beach.

150	do.	do.	$1\frac{1}{2}$ foot water.	} Loose sand.
200	do.	do.	$6\frac{1}{2}$ feet.	
300	do.	do.	8 "	
500	do.	do.	9 "	
600	do.	do.	10 "	
720	do.	do.	15 "	} Hard sand.
840	do.	do.	18 "	
900	do.	do.	20 "	
1020	do.	do.	21 "	
1080	do.	do.	23 "	
1200	do.	do.	25 "	

The last Sounding was parallel with the breakwater Buoy, laid down where the remains of the breakwater yet form a shoal of three fathoms water.

The declivity of the beach is one foot in nine.

The following directions for vessels in the Madras Roads are taken from the "Port Regulations."

Anchorage for Merchant Vessels.

All Ships and Vessels other than those commonly known as Dhonies or Native Vessels, are directed to anchor within the following bearings, viz., the Master Attendant's Flag Staff from N. W. to W. $\frac{1}{4}$ N. which will be found the most convenient anchorage for Merchant Vessels. The southern limits of the roadstead usually resorted

Anchorage for Men-of-War.

Ships anchoring out of the limits liable to extra boat hire.

Caution against anchoring too near the breakwater buoy.

Advice respecting the general use of buoys.

Suggestions for due attention to ground tackling.

to by Men-of-War may be ascertained as within the position denoted, by bringing the Light House to bear from W. b. N. to due West, from 9 to 7 fathoms, which is the limited range of soundings throughout.—All Ships and Vessels should take up such a berth as will enable them to wear clear of all danger in the event of casting in shore when they weigh or part from their anchors, especially as the ground swell so prevalent here, tends, in spite of all precautions, to cast a Vessel in shore. Any Ship or Vessel anchoring without these limits, or in more than 9 fathoms, will be liable to extra boat hire. Within the Northern limit of the Anchorage, lies a buoy marking the site of the breakwater; least water thereon is 3 fathoms. Ships should give this position a wide berth.

Commanders of all Ships and Vessels coming to an anchor in these Roads, are advised to attach a buoy to their anchor, whereby giving foul berths may be avoided, and the position of lost anchors will be indicated.

As Ships have frequently parted, and accidents have happened, by riding with too short a scope, the Master Attendant thinks it his duty to caution

all Commanding Officers that no Vessel is safe with less than 60 fathoms cable in moderate weather, and 80 fathoms, or more, with a swell,—and to those who are not acquainted with the Roads, should any jerk be felt when riding with a Chain, (from the heavy swell which rolls in at times) either on the windlass or bitts, cable should be veered until the jerk is no longer felt, to prevent parting, and a second anchor should always be ready to let go. Efficient ground tackling is essential towards the safety of vessels in these Roads.

Surf Notice.

When the Surf is so high, as in the opinion of the Master Attendant or his Assistant to render communication with the shore dangerous, a red and white chequered flag will be hoisted at the Master Attendant's Flag Staff. When the Surf is impassable, the first distinguishing pendant will be displayed under that flag.

Indications of bad weather and an approaching gale, the extreme responsibility of Commanders.

Should the weather assume such a threatening appearance as may in the opinion of the Master Attendant, indicate an approaching gale, and render it advisable that the ship should put to

sea, the following signals will be hoisted at the Master Attendant's Flag Staff; but the Commanding Officer is not to wait the display of signals, if he deems it prudent to put to sea.

1st. The weather is suspicious, prepare for running to sea, *white flag blue cross.*

2d. Cut or slip, *red flag with swallow tail.*

Night Signals.

3d. Upon the indication of an approaching gale of wind after sunset, *three good lights will be hoisted at the Master Attendant's Flag Staff*, one at the mast head, and one at each yard arm, and a Gun will be fired from the ramparts of Fort St. George every five minutes for one hour, or for such time as may be deemed necessary, and Masters are required to acknowledge seeing these Signals when made, by hoisting a good light at the peak, or other conspicuous place, more convenient. Commanders are warned of their own extreme responsibility if these Signals are not timely attended to.

It may be well to notice that the Roadstead abounds in sharks, and bathing ought on no account to be attempted.

Light House.

A structure that has excited admiration, is the Madras "Light House." It was opened for use on the 1st January 1841. Previous to its establishment a light had been exhibited from a wooden building erected on the top of the old Exchange (the present Revenue Board Office) in the Fort. Up to June 1839, this was of a very inferior description, as the illumination was effected merely by a dozen *tumblers of oil*, bearing wicks fixed to iron wire supports; the light thus produced being assisted by a few *looking glasses* at the back of the lantern. During the next two years the Light was somewhat improved by reflectors and lamps, but it remained in the old place.

The present Light is exhibited from the top of a handsome granite building in the form of a Grecian Doric column, standing on a cubic pedestal elevated above massive steps of the same material. The corners of the steps are replaced by four flanking buttresses, which, apparently solid to the eye, are made to act as apartments, being lighted through their roofs by skylights invisible on the outside.

The principal dimensions of the Column are as follows :—

From the ground to the vane.....	125 feet.
Light above the ground	117 „
Do. Sea, about	128 „
Diameter at base of Column	16 „
Do. at neck of Column below Capital..	11 $\frac{1}{8}$ „
Height of Shaft of Column.....	84 „
Breadth of each Corner buttress at base not including cornice.....	16 $\frac{1}{2}$ „
Total breadth of base including the buttresses.....	55 „
Cost in round numbers—Building	60,000 Rupees.
Lantern, Lighting Apparatus, Reflectors, Lamps, &c.....	15,000 „

Total.... 75,000 Rupees.

The Light House is 2·84 statute miles, or 2 $\frac{3}{4}$ minutes of Longitude, east of the Observatory; and its Longitude may be assumed at 80° 17'; and its Latitude 13° 5' 10" N.

The lantern on the top of the Column consists of a 12-sided Polygon, framed in gun metal, nine of the faces or sides of which, are of glass, and the remaining three blanked. The interior diameter of the lantern is 9 feet, and its height, exclusive of the roof, is 4 $\frac{1}{2}$ feet.

The light is produced by means of Argand lamps of a simple construction, attached to plated parabolic reflectors, of which there are 15 in constant use. The oil consumed is the best cocoanut oil of the ordinary kind.

The lamps and reflectors are attached to the machinery, by the aid of which they are made to *reciprocate*, that is, to move backwards and forwards through an angular space of 90°, instead of revolving as usual. The cause of this departure from the ordinary system was, the necessity which existed in constructing the lantern to reduce its dimensions to the smallest possible; the intention having originally been to fix it on the wooden scaffolding on the top of the Revenue Board Office before referred to; and by adopting the reciprocating, instead of the revolving light, 15 lamps and reflectors are as effective, in lighting up the sea horizon, as 24 would be upon the revolving plan.

The light exhibited is what mariners term a "flashing" one,* and it may be seen 20 miles from the deck, and about 33 miles from the royal masthead of a large ship. In consequence of the peculiarity of the motion given to the reflectors, the effect of which is to cause the *intervals between the flashes to vary* with the position of the ship from which they are seen, it cannot be identified by the length of its periods of light and darkness, as is the case with revolving lights. This inconvenience, would be a drawback in England, where, from the multitude of lights and the difficulty of discriminating them, the observation of their periods may be of much importance, but it is of no consequence at all at Madras, this being the only "flashing" light on the entire Coast of Southern India.

Although the illuminating apparatus attached to the Madras Light House is inferior in power to many of the first-rate beacons in other countries, yet owing to the advantages of the climate, and the pure and tranquil atmosphere through which its rays are cast, the light has been generally praised for its efficiency, and even considered superior to those in the British Channel. It is brilliant as it was 14 years ago, and has never required repair or caused any trouble whatever.

As the principle of the Madras light is a novel one, and has been highly thought of by scientific men, it may be interesting to add more detail concerning it. The two following extracts are taken from Reports published in the "Professional Papers" of the Madras Engineers, and were written by Captain (now Colonel) J. T. Smith, of the Engineers, the inventor of the light.

"In *Fixed* lights, as is already well known, the distribution of light is effected, according to the system hitherto adopted in England, by means of Argand lamps, and a number of parabolic reflectors placed round the circumference of a circle, facing outwards, and so disposed with respect to each other, that each reflector is pointed towards a different part of the horizon, a very small portion of which is illuminated by it; the tendency of the reflector, from its peculiar shape and catoptric properties, being, to collect the light of the lamp placed in its focus, and propel it in a dense beam along its axis, or in the direction of the point immediately in front of it, to a very small space on each side of which its effects are confined. This space or

* The flashes are not sudden but gradual, and the time of brilliancy is always to the time of darkness, as 2 : 3. From the sea, the time of brilliancy is about 40 seconds, and the time of darkness, 20 seconds.

breadth of the luminous beam is usually calculated at $7\frac{1}{2}$ degrees on each side of the axis or 15 degrees in all;* consequently the number of reflectors required to fill the whole circumference of the horizon with light, ought not to be less than 360 divided by 15, or 24. If a part of the horizon only require illumination, a smaller number, in proportion, is sufficient.

A *Revolving* light may be explained, by first supposing the above system of reflectors to be mounted in a frame which is connected with machinery suited to give it a revolving motion. It is plain, that if the entire system proper for a fixed light were thus made to rotate, a spectator would still see an uninterrupted beam of light,† since the diverging rays from the 24 reflectors filling up the entire circumference of the horizon, as before explained, the effect of each, as seen during the revolution by a spectator from a distance, would not cease till that of the succeeding one had commenced.

If we now suppose, that instead of the complete system above referred to, every alternate reflector be removed, the disposition of the remaining ones being unaltered, it will be obvious that the appearance produced, would undergo a very marked change; for now, on the light of any one reflector ceasing to be visible, the illumination would not be kept up, as before, by the action of a succeeding one, but an *interval of darkness* would ensue, corresponding to the blank left by the removal of its adjoining reflector; and the effect of the system after this alteration, as viewed during rotation, would be that of a series of bright and dark periods, which constitute the “*flashes*” and “*eclipses*” peculiar to the *revolving* light.

This principle is striking and effective, as well as economical, when compared with the *fixed* lights; for it will be readily understood from what has been above explained, that if the eclipses and flashes be of *equal* duration, only half the number of reflectors and lamps required

* This is not the entire space filled by the light of the reflector, which, in fact, spreads through about 18 degrees, but the illuminating power on each edge of its beam being very feeble, it is usual in arranging the disposition of a fixed light, to allow one reflector for every 15° only, so that the beams cast by them *overlap*, as it were, at their junction; and, by uniting their effects, partly compensate for their want of intensity.

† In the case here referred to, the beam would be uninterrupted, for the reasons given, but it would not be *uniform* in intensity. For the tendency of each reflector being to collect the greatest quantity of light to its axis, and proportionally less and less as we recede from it, its effects become weaker towards the edges of the space filled by its beam, so that the light is much more feebly seen by a spectator situated on the line opposite the junction of two reflectors, than when immediately in front of either of the mirrors themselves, and hence, the effect of the revolution of such a system would be to produce an undulating appearance, unless great rapidity of motion were imparted to it.

by a fixed light become necessary for the illumination of a complete circumference of the horizon ; and it will be further obvious, that if, as is usually the case, the dark periods or eclipses be made of a *longer* comparative duration, the number requisite would be still further diminished : for instance, if the eclipses were proposed to be of double the duration of the flashes, then instead of removing every alternate reflector, as in the case above alluded to, the plan adopted would be to remove two and leave the third, thus reducing the number from the 24 indispensable to the fixed principle, to 8 only.

There is however one circumstance attendant upon this contrivance which in many situations detracts greatly from the superiority it would otherwise possess over the fixed light, and this it is the object of the improvement which I have introduced to obviate. This defect consists in the useless expenditure of effect which is occasioned by a revolving light sweeping the *entire* circumference of the horizon, when placed in a situation where only *half* of it requires illumination. When a Light-house is situated upon a line of coast,—as most are,—it is plain that no real benefit can result from illuminating the *land* side ; and, consequently, in such a situation that portion of the lantern which looks inland, in lieu of being cased with glass, is always “blanked” by inserting copper plates, to avoid expense, risk of breakage, &c.

Now when a light upon the *Fixed* principle is established in such a situation, the effect produced is precisely proportioned to the means employed, and none of the light is lost ;* since none of the reflectors are pointed inland : but in a revolving light on the other hand, this adaptation of the means to the end to be gained, cannot be applied ; for while the revolution continues complete, the reflector which at one time points to seaward must a few minutes afterwards be directed towards the land, or rather against the blank wall which closes the lantern on that side ; so that while one-half of this system is fulfilling the purpose for which it is intended, the effects of the other half are absolutely thrown away.

This is of more importance, when, instead of each flash being produced by a *single* reflector, as in the above supposition, a *number* are combined (pointing in each direction), to augment the vividness

* This regards the *azimuthal* distribution only, as it would be tedious and out of place here to take into consideration the *vertical* divergence of the rays. Since, as this divergence is the same in both cases, the argument is in no respect affected by its operation.

of the beam. In this case the total number employed being greater, the absolute loss is thereby enhanced. In the new apparatus recently constructed for Madras, it was determined to group three reflectors together to produce each flash; and it had been intended that intervals of darkness of *double* the durations of the periods of light should be allowed to intervene, to form the eclipses. These conditions would have required (by the present system of revolving lights), agreeably to the explanation above given, that 8 sets of 3 reflectors each, should be used, or 24 in all; but being struck while preparing the design for this apparatus with the manifestly unprofitable result of such an arrangement, and being very desirous from other attendant circumstances to diminish the number of reflectors and lamps as far as possible, without decreasing the pre-determined results, I was naturally led to enquire into the possibility of obviating the evil; and after some consideration it occurred to me that this might be very easily and simply effected, by merely stopping the revolution of the apparatus after it had traversed a certain portion of the circumference, and then *reversing* the motion, so as to cause it to *reciprocate* backwards and forwards, and thereby confine the action of the reflectors disposed towards the sea to that side only; thus obviating the necessity of placing any mirrors or lamps whatever on the *side facing the land*. I have been enabled, by this means, to fulfil the conditions proposed with 15 reflectors, or at $\frac{2}{3}$ ths of the expense which would have attended an adherence to the revolving principle; and the saving might have been further increased to nearly one-half, had I not been anxious to avoid the possibility of any defect in the distribution of the light near the coast. I have therefore used 15 reflectors, and thus extended the limits of the illuminated arc to four Points of the compass inland, on each side. As the frame passes over an angle of 8 Points or 90° , and illuminates by its motion 16 Points, these 8 extra Points make 24, leaving only 4 Points or 45° not illumined. These are of course inland."

* * * * *

"The *reflector frame* consists of a strong wrought iron turned spindle, to which are affixed the supports for the 15 reflectors, in two tiers, 8 above and 7 below; these reflectors are so disposed as to point in the direction of five faces of an octagon, three reflectors on each, which three reflectors are parallel to one another, and are therefore seen at the same time, constituting a "*flash*"

when the revolution of the apparatus brings them in direct opposition to the eye. The light thrown by these three reflectors is emitted in the form of a conical beam, whose sides are inclined at an angle of 18° . Hence, as the different sets of reflectors, (being ranged on the faces of an octagon), cast their light in the direction of the perpendiculars to these sides, which perpendiculars are inclined to one another at an angle of 45° , it follows, that at any given time, there are 18 degrees of the horizon, (out of the 45,) which are covered by the spread of rays; and consequently, on the revolution of the machine, the duration of the *flashes* would bear to that of the *eclipses*, or dark periods, the proportion of 18 to 27 (equal to $45^\circ - 18^\circ$) or as 2 to 3. As the nature of the motion is however *reciprocating*, instead of rotatory, the above ratio merely expresses the average *proportion* of the light and dark intervals, which are themselves variable, according to the position of the spectator; and as the rapidity of movement is so adjusted, that the luminous beams cast by the reflectors sweep round the horizon at the rate of 90° in 2 minutes, it follows, that the duration of the *flashes* will vary from 0s. to 48s., and that of the *eclipses* from 0s. to 72s., for $48 + 72 = 120s. = 2m.$; the sums of the durations of light and darkness, however, in every position bearing the constant ratio before stated, viz., as 2 to 3. The reflectors being fixed to the reflector frame as before described, become capable of rotation round the spindle as an axis; the upper neck of the spindle being engaged by the set of friction rollers before spoken of, and its lower end turning on a pivot fixed to the frame of the machinery, beneath the level of the floor of the lantern. By means of a spring clutch, this part of the apparatus may be disengaged from the wheel work which moves it, and made to revolve independently; for the convenience of cleaning the reflectors, trimming the lamps, &c.

The *reflectors* are all similar, being paraboloids of 3 inches focus, and of the breadth of 21 inches over the lips, by a depth of 9 inches. They are manufactured, by hammering, from flat discs of rolled copper and silver, and afterwards highly polished. By the mode in which they are fixed to the frame, each reflector carries its own lamp, the burner of which is adjusted to the focus of the parabola, the chimney passing through an opening in the upper part of the reflector.

Of the effect or illuminating power of the beam cast by the combined operation of the three instruments whose united beams now

constitute one flash, as before explained, in comparison with that of the apparatus* in use in the old lighthouse, I am unable to give an exact estimate; having no precise knowledge of the comparative illuminating powers of the Argand lamp, and the common wick and tumbler lamp there employed; but from an experiment which I made previous to my leaving India, I have reason to believe, that the Argand is not less than $2\frac{1}{4}$ times as powerful as the latter.

Admitting $2\frac{1}{4}$ then, to be the ratio of the illuminating powers, it may further be demonstrated, that the additional effect gained by the action of the nine *looking glass* reflectors lately applied† to the 12 tumbler lamps in the old lighthouse, has only augmented their power to that of 14 tumbler lamps, or 6 22 Argand flames.

The effect of the *parabolic* reflector is to produce a beam of light which is feeble at first, and gradually increases in intensity till it reaches its maximum of illuminating power, which remains unaltered during a few seconds of brightest effulgence, and then gradually decreases in vividness. The illuminating power of the beam at the point of maximum effect is equal to that of 130·43 unassisted Argand flames; thus, the comparative power of the brightest period of the flash cast by the combined operation of *three* parabolic reflectors, is to that of the present apparatus as 391·3 to 6·22, or as 62·9 to 1;‡ but although this estimate rather falls short of than exceeds the actual ratio of the augmentation which the illuminating power of the light will receive from the improved means to be applied to it, the effect upon the eye may be less striking than this statement of it might lead one to anticipate; the vividness of a travelling beam of variable intensity appearing much less than that of a fixed light of equal power.

With regard to the construction of the *lamps* fitted to the *reflectors*, being sensible of the great importance of securing their durability, and guarding against derangement in every particular, I spared no pains, both in studying the greatest possible simplicity in their contrivance, and also in providing against the operation of the usual destructive agents. In the first respect, being dissatisfied with the action of the pattern first tried, a series of experiments was undertaken,

* A. D. 1838.

† From 1839 to 1841 when the present lighthouse was opened, better lamps and reflectors were used, and the light increased four-fold, or equal 25 Argands.

‡ Vide previous foot note. The present powers, comparing with the *improved* old light, is 391·3 to 25, or about $15\frac{1}{2}$ to 1.

in the course of which various experimental new burners were manufactured and submitted to trial, which finally led to the adoption of one which has fully satisfied my expectations. This contrivance, which from its simplicity will be readily understood on inspection, possesses the advantage of a motion for raising the wick quite distinct from the body of the lamp, so as in case of its derangement, to admit of its being thrown aside, and a spare one substituted. The burners also are secured against the usual corrosion at the point where the flame rises, by being tipped with platina; and, as a further security against a failure of the means for generating the light, a complete set of spare lamps, of a commoner kind, with iron tubes, has been provided; to be called into use, in event of the first requiring a general repair.

The machinery adapted to this apparatus is so designed as to communicate a *reciprocating* motion to the frame, causing it to pass and repass over an angular space of 90° . The perpendiculars from the different faces of illumination being, as before stated, inclined to one another at the angle of 45° , there would have been an effectual provision for the supply of light to every point of the horizon embraced by the rays of the two extreme faces, had 45° been the limit of the arch traversed; but I was induced to prefer the wider sweep, through the quarter circle or 90° , by considering that the action would be more certain, were each Point in the azimuthal circumference exposed to the light of *two* sets of rays; while the further advantages would be gained, 1st, by the facility which such an arrangement would afford for varying the flashes by the use of crimson shades, should such a distinction ever become necessary hereafter; and 2ndly, by the greater regularity of the periods of light and darkness, of which the duration of every *alternate* series is thereby rendered *constant*.

The machine consists of a train of wheels of strong construction, which are kept in motion by a weight, and regulated by fans, capable of adjustment to the required velocity; and the reciprocating or *reverse* movement is effected by the alternate action of two vertical bevelled wheels upon an horizontal one of double their diameter fixed upon the spindle of the reflector frame. The certainty of this movement at the periods of the successive engagement and disengagement of each vertical wheel in turn, (the vertical wheels turning on the ~~horizontal~~ and taking into *opposite* sides of the horizontal wheel, ~~the horizontal wheel being without teeth~~), is ensured

by a contrivance designed for the purpose, and consisting of a cycloidal *cam* or snail of a double curvature,* which acts upon a radial pin projecting laterally from the side of the horizontal wheel above alluded to. This addition has the effect of obviating the possibility of the reversing (vertical) wheel failing to become engaged at the proper moment, and gives certainty to its action."

Among the other objects of interest is the "Madras Observatory," which was erected in 1793, (by Michael Topping, under instructions from the Court of Directors,) as stated in the original description, "for Promoting the Knowledge of Astronomy and Navigation in India." From this account it also appears that previous to the receipt of the order from the Court of Directors, William Petrie, Esq., subsequently a Member of the Madras Government, had erected an Observatory at his own private expense in 1787—"the first establishment by any European in the East." This Observatory with some valuable instruments he handed over to the East India Company, on his proceeding to England in 1789.

The present edifice is strongly built of brick and chunam. The length of the observing room is 60 feet and 6 inches, and its breadth 20 feet. The whole length of the Observatory including the verandah, is 76 feet 3 inches, and its extreme breadth 46 feet 9 inches.

The principal instruments—the Transit of 5 feet and the Mural Circle of 4 feet—brought out by the late Mr. Taylor, are placed on massive granite supports to insure steadiness.

A valuable Equatorial instrument has since been supplied of 7½ focal length, and 6 inches aperture, by Lerebours of Paris.

In 1847, a permanent Magnetic Observatory was erected to the eastward of, and connected by a corridor with, the Astronomical Observatory.

This Observatory has been under the direction of the undermentioned gentlemen:—

J. Goldingham, F. R. S.

Captain Warren,

T. G. Taylor, F. R. S. & A. S.

Captain Jacob, F. R. A. S.

Major Worster, F. R. A. S.

* This is the most novel and important part of the invention, though Colonel Smith has not dwelt on it.

It is necessary to notice the error that long existed with regard to the Longitude of the Madras Observatory.

Mr. Goldingham had determined the Longitude of the Observatory to be $80^{\circ} 17' 13''$, or $5h. 21m. 8s$ from no less than 230 observations of the Eclipse of Jupiter's Satellites, and also about 800 Lunar distances.

The late Mr. Taylor commenced a series of observations with the 5 feet Transit instrument, and comparing his result, with the simultaneous observations at Greenwich and Cambridge, it appeared that the Longitude was $80^{\circ} 15' 51''$ or $5h. 21m. 3.8s.$, which is the Longitude (erroneously) given in the Nautical Almanac to the present day.

Mr. Riddle subsequently compared further observations at Greenwich, and Mr. Maclean at the Cape compared his. The result was that they supposed the Longitude of Madras close on $80^{\circ} 14' 0''$. This Longitude is assumed in the 3rd edition of 'Raper's Navigation.'

Mr. Taylor continued his own observations with Moon Culminating Stars, and made further comparisons with Greenwich, Cambridge, and Hamburg; and in his Paper, read before the Astronomical Society, 13th June 1845, he shows that the actual Longitude is $5h. 20m. 57.3s.$ or $80^{\circ} 14' 19.5''$, being $11\frac{1}{2}$ seconds of time, or nearly 3 miles different from the result of Mr. Goldingham's observations.

The difference is caused, Mr Taylor believed, by a source of error which always exists in observing *Jupiter's Satellites*. Different telescopes give different times, by several seconds, of immersion and emersion. This was found to be the case when he tried his Observatory telescope, (5 feet, Dolland), with the 42 inch telescope used by Mr. Goldingham. Observations for Longitude by *Moon Culminating Stars*, when both limbs of the Moon are observed, are much more accurate.

The Lighthouse is 2.84 Statute miles or $2\frac{1}{4}$ minutes of Longitude east of the Observatory, and ships anchor about 1 mile east of the Lighthouse, so that $80^{\circ} 18' 00''$ or $5h. 21' 12''$, may be assumed as the Longitude of a ship lying in the Madras Roads.

The Madras Mint is situated in Peddoo Naick's Pettah, in the north-west corner of Black Town, a locality more easily identified by saying that it is at the opposite end, from the General Hospital, of the long narrow street, (Saulay street) which runs due north from that building,—and is in the immediate vicinity of the Seven Wells.

At the commencement of the present century, the Mint was maintained in the Fort, and was entirely under the management of Natives; no records were kept, and little or nothing can now be ascertained respecting its history. About 1802, the office of Mint Master was held by Mr. J. H. Cassamajor, in conjunction with that of Sub-Treasurer, the fabrication of the coins being undertaken by contract with one Linga Chetty. At this time Mr. B. Roebuck, a member of the Civil Service, was Military Paymaster and *Assay Master*. The arrangements for the coinage were of a very primitive description; the silver was melted into little buttons, flattened by the hammer,—chipped to the proper weight, and finally held between two dies, the upper one of which was violently struck by a sledge hammer.

About the year 1803 or 1804, a number of accidents took place in the Powder Mills, which then stood upon the present site of the Mint, and it was resolved to remove them altogether beyond the walls of Black Town. It was also determined, on the suggestion of Mr. Roebuck, to erect a new Mint, where the Powder Mills had stood, and the old buildings were accordingly demolished, and the present Mint erected.

The construction of the buildings, and fitting up of the machinery, great part of which was sent from Calcutta, under the charge of a Mr. D'Costa, was upon the plans and under the general superintendence of Mr. Roebuck, who was appointed the first Mint Master, and by the year 1807 all was complete, and in working order. Although a great improvement was effected on this occasion, the workmanship of the establishment was not what would be accounted creditable in modern days. The first silver coins executed were half pagoda pieces, fabricated out of Spanish dollars, but the impression on the new coin was so imperfect that the marks of the dollar were not even obliterated.

Mr. Roebuck remained in charge of the Mint till 1809, when he was succeeded by Mr. Ogilvie, who in time gave way to Mr. Maconochie, and he to Mr. McKerrell, in 1820, whose able management did much to improve the system of check and the general discipline of the department, which at this time began to receive great advantage from the indefatigable exertions of Dr. Bannister. This officer was appointed, when still a young Assistant Surgeon, to aid the Mint Master, and succeeded in introducing a series of improvements, calculated to place

the Madras Government to re-open the establishment, placing it in the charge of Dr Bannister, who in the interim had assured them that the machinery was quite competent to execute the coinage. But Dr Bannister's health had failed, as above stated, before the measure could be carried out, and all the other officers who had had any experience in the Mint, had committed themselves to the opinion that the attempt to execute the new currency with the existing machinery was hopeless. The Government in this extremity applied to Captain (now Colonel) Smith, of the Engineers, the present Mint Master, who in September 1839, was commissioned to make the necessary repair, and bring the Mint into efficient working order. This was accomplished without any difficulty, and the establishment has continued in uninterrupted action ever since 1840.

As at present constituted, the Mint contains all the operative departments and machinery necessary for the execution of a coinage of from 100 to 120 thousand *pieces* a day, with the exception of the "Laminating department," which is limited to the coinage of only 30,000 pieces, owing to the want of sufficient mechanical power, which is at present only supplied by bullocks. This deficiency is now being made good by the construction of steam engines, which will be capable of doubling the present yield; and as a large proportion of the coins are always of copper, made from straps procured in a laminating state from Europe, the addition now being made will suffice to augment the power of the Laminating department, as much as will ever be required for a mixed coinage, to the full extent abovementioned.

All the rest of the machinery is at present worked by manual labour, which in some respects has its advantages over steam, but there are nevertheless many of the operations which afford scope for considerable reductions in expense, if steam machinery could be applied to them.

The establishment consists exclusively of Natives, with East Indian Superintendents, there being no European subordinate connected with the Mint, except the gate keeper. The annual expenses vary with the nature and amount of work, but may be taken on the average at about 86,000 Rupees. The Assay Office about 30,000 more, and the Mint Committee Office about 4,000. Total about 120,000 Rupees per annum.

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As at present constituted, the Mint contains all the operative departments and machinery necessary for the execution of a coinage of from 100 to 120 thousand *pieces* a day, with the exception of the "Laminating department," which is limited to the coinage of only 30,000 pieces, owing to the want of sufficient mechanical power, which is at present only supplied by bullocks. This deficiency is now being made good by the construction of steam engines, which will be capable of doubling the present yield; and as a large proportion of the coins are always of copper, made from straps procured in a laminating state from Europe, the addition now being made will suffice to augment the power of the Laminating department, as much as will ever be required for a mixed coinage, to the full extent abovementioned.

All the rest of the machinery is at present worked by manual labour, which in some respects has its advantages over steam, but there are nevertheless many of the operations which afford scope for considerable reductions in expense, if steam machinery could be applied to them.

The establishment consists exclusively of Natives, with East Indian Superintendents, there being no European subordinate connected with the Mint, except the gate keeper. The annual expenses vary with the nature and amount of work, but may be taken on the average at about 86,000 Rupees. The Assay Office about 30,000 more, and the Mint Committee Office about 4,000. Total about 120,000 Rupees per annum.

Statement showing the actual expenses incurred in the Madras Mint from 1843-44 to 1853-54, being eleven years (including Assay and Mint Committee Offices)

Years	Mint Master's Salary and Establishment	Contingent servants and charges including Bullocks put chased & hired	Value of Articles supplied from stores	Amount expended in making new and repairing old Machinery and Mint buildings	Total Mint expenses each year	Total Assay Office expenses for each year.	Total Mint Committee Office expenses for each year.	Grand Total Mint Assay and Mint Committee Office expenses for each year
	RS	RS	RS.	RS	RS	RS	RS	RS
1843-44	39,966	38,145	14,322	1,518	93,950	30,594	4,117	1,28,661
1844-45	44,259	36,923	8,906	982	91,160	30,971	4,445	1,26,576
1845-46	41,363	37,536	11,138	6,288	96,325	28,987	3,850	1,29,163
1846-47	43,028	48,325	8,209	981	1,00,543	24,352	3,670	1,28,565
1847-48	49,894	45,453	6,850		1,02,198	33,059	3,686	1,38,942
1848-49	45,481	25,119	4,452		75,052	30,543	3,671	1,09,266
1849-50	45,280	20,019	3,047	876	69,221	30,588	3,639	1,03,148
1850-51	45,610	24,708	5,173		75,490	30,088	3,683	1,09,262
1851-52	47,860	26,199	5,835		79,894	30,974	3,648	1,14,516
1852-53	48,111	28,084	5,356	935	82,486	25,361	3,674	1,11,524
1853-54	48,238	*41,170	†8,856	1,079	99,343	31,684	3,671	1,34,698
						† 2,184		† 2,184
	4,99,090	3,71,681	82,234	12,659	9,65,662	3,29,388	41,754	13,36,806

The following statement shows the amount of Merchants' Bullion, and "uncurrent coins" belonging to Government, brought to the Mint in each of the last seven years, for coinage or re-coinage.

Years.	MERCHANTS' BULLION.			UNCURRENT COINS.			Total uncurrent Value.
	Gold Outturn value	Silver Outturn value	Total Gold and Silver	Gold. Outturn value	Silver. Outturn value.	Total Gold and Silver.	
	C. RS.	C. RS.	C. RS.	C. RS	C. RS	C. RS.	C. RS.
1847-48	9,490	1,03,186	1,12,677		28,90,540	28,90,540	30,03,216
1848-49	1,284	1,76,611	1,77,896		12,11,847	12,11,847	13,89,743
1849-50	4,430	2,39,889	2,44,319	.	9,46,904	9,46,901	11,91,223
1850-51	3,249	11,96,864	12,00,113	.	19,15,784	19,15,784	31,15,898
1851-52	3,58,720	15,16,247	18,74,967	.	13,53,124	13,53,124	32,28,091
1852-53	1,83,821	44,81,356	46,65,177	.	7,78,360	7,78,360	54,43,537
1853-54	41,191	49,23,033	49,64,225	47,295	6,80,460	7,27,754	66,91,979
Total..	6,02,186	1,26,37,187	1,32,39,373	47,295	97,77,019	98,24,313	2,36,63,687

* This increase is caused by the very large coinage lately required from the heavy imports of bullion.

† The value of Nitric and Sulphuric acids is omitted in the charges under this head, as the acids were produced from Sulphur and Nitre already debited in the contingent bills

‡ Value of articles supplied from Mint Stores, Assay Muffles received from England, and loss in gold and silver sustained in Assay processes.

The next two statements show the *deliveries* made to the General Treasury, during the last 7 years, distinguishing the silver from the copper coins, and also the whole Rupee pieces from the smaller silver coins.

Years.	SILVER COINS.										Total Value Silver Coins.	Total Silver Pieces.	Total
	Single Rupees.		Half Rupees.		Quarter Rupees.		Double Annas.*						
	Pieces.	Value.	Pieces.	Value.	Pieces.	Value.	Pieces.	Value.					
1847-48	30,06,332	30,06,392	415	208	9,75,460	2,43,873	19,58,950	2,44,828	59,41,157	34,95,301			
1848-49	11,60,411	11,60,442	...	...	3,98,484	99,625	2,92,869	36,610	18,51,764	12,96,676		
1849-50	6,87,600	6,87,528	...	...	4,59,367	1,14,876	4,95,709	61,968	16,42,676	8,64,372		
1850-51	15,37,993	15,38,115	...	...	8,75,217	2,18,836	15,78,963	1,97,319	39,92,173	19,54,271		
1851-52	32,93,915	32,94,135	...	...	10,22,791	2,55,723	6,17,654	77,224	49,34,360	36,27,082		
1852-53	39,34,975	39,35,171	...	...	...	...	...	...	39,34,975	39,35,171		
1853-54	65,49,625	65,49,745	...	...	3,98,120	99,512	8,13,527	1,01,744	77,61,272	67,51,002		
Total....	2,01,70,851	2,01,71,528	415	208	41,29,439	10,32,446	57,57,672	7,19,693	300,58,377	2,19,23,875			

* No single Annas were coined.

about one-half of the perpendicular. The remainder forms a Hospital for Her Majesty's Regiment in the Fort. The General Hospital has a separate building for Natives, whether attached to the Military or not, one for European and Indo-British, and one for Native females. There are also sick Officers' quarters attached to the Hospital.

The Hospital is in charge of a Surgeon and Assistant Surgeon, (the latter is also permanent Assistant,) both of whom reside on the premises. There are also one Apothecary, two Assistant Apothecaries, two Second Dressers, one Hospital Serjeant, and one Native nurse attached to the Hospital.

The wards are nine in number, not including four apartments for insane Patients. Of these nine wards there are five male and one female, for Europeans and Indo-Britons, and one male and a female ward for Natives. The beds number in all 202; 127 for Europeans and 75 for Natives.

The complaints most commonly treated are, Fevers, Bowel Complaints, Dysentery, Hepatitis, Affections of the Brain, Paralysis, Chest Affections, Venereal, Fractures, Dislocations, Ulcers, &c.

The number of Patients averages from eighty to a hundred ordinarily, but it is much increased on the arrival at the Presidency of bodies of Military sick details.

All classes are admitted into the Hospital, a small fee graduated according to means, being received from all except paupers.

The number of each class generally in Hospital is—

Soldiers, European	..	..	20
Do. Native	. . . . .		20
European Seamen.	. . .		12
Civil Patients and Paupers,	} 35		
European and Native.			

The Hospital Serjeant has his quarters within the enclosure. There is one European and one Native Guard.

There is no Hospital in the Fort, but there is a Dispensary in charge of an Apothecary who has instructions to supply such small quantities of medicine as may be occasionally required by the residents. All the Honorable Company's Establishments in the Fort, &c., have a special claim to admission into the General Hospital when sick.

Medical College

This Institution which faces the eastern entrance to the General Hospital, was opened in 1835, under the

value, by 1 Rupee in 1,26,564 or $1\frac{1}{2}$ Pice in 1,000 *Rupees*. This, in the 418 $\frac{3}{4}$ *crores* coined, is 330 $\frac{3}{4}$ Rupees only.

The general affairs of the Mint are under a "Mint Committee" of three Civilians, (two of whom are the Accountant General, and Sub-Treasurer,) and a Secretary. A code of Rules for the guidance of the Mint Master was drawn up some years ago. The executive is left in his hands.

The Mint Committee have a similar control over the Assay Department, which consists of an Assayer and his Deputy. The Assay Office is on the same premises with the Mint.

Private Bullion tendered to the Mint for coinage is melted and then weighed in the presence of the owner or his Agent. From the melted Bars samples are cut out, and taken to the Assay Master who having reported the fineness, the value of the whole is calculated. A deduction is then made of 2 per cent. on silver, and 1 per cent. on gold* as "Seignorage" to meet the expenses of coinage, and a farther charge if the bullion is of a fineness of 6 dwts. or more, below standard, for "refinage." The net sum is then paid to the owner from the Treasury at once.

No gold has been coined at the Mint for some years. The standard fineness is the same as the gold coinage of England, *i. e.* 22 carats or $\frac{11}{12}$ pure metal. The fineness of the Indian silver coinage is $\frac{3}{4}\frac{2}{4}\frac{2}{4}$ ths pure metal (or $\frac{1}{2}\frac{1}{2}$), whereas the English silver is $\frac{2}{4}\frac{2}{4}\frac{2}{4}$ ths. Each 240th is called a dwt. (pennyweight) so that Indian silver, in England would be reported 2 W. or two dwt. Worse, or below (English) standard. In the Indian coinage, every difference of 1 dwt. in the fineness, is a difference of 4·545 Rupees in 1,000. The Rupee is 180 grains. 2·43 Rupees or 1 Rupee 7 Annas weigh 1 oz. avoird., allowing a little for the wear of the coin. 350 newly coined Rupees weigh exactly 9 lbs. avoird. Half and quarter Rupees are also coined, and $\frac{1}{8}$ Rupees or double Annas. The single Anna silver coinage has long been given up.

The copper coinage is of single Pice, 3 Pice, (or $\frac{1}{4}$ Anna) and 6 Pice, (or $\frac{1}{2}$ Anna). The copper ready rolled is sent out from England.

The whole building known as the General Hospital is situated a mile west of the Fort. It may be described as two plane Blocks running north and south, and connected by one running between and perpendicular to them.

The "General" Hospital itself consists of the eastern Block, and

* At 6 W. the refinage charge is 0·24 per cent., and so on till at 20 W. it is 0·80 per cent.

about one-half of the perpendicular. The remainder forms a Hospital for Her Majesty's Regiment in the Fort. The General Hospital has a separate building for Natives, whether attached to the Military or not, one for European and Indo-British, and one for Native females. There are also sick Officers' quarters attached to the Hospital.

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Soldiers, European	20
Do. Native	20
European Seamen.	12
Civil Patients and Paupers,	} 35	
European and Native.	 }

The Hospital Serjeant has his quarters within the enclosure. There is one European and one Native Guard.

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~~Medical College~~ This Institution which faces the eastern entrance to the General Hospital, was opened in 1835, under the

designation of "Madras Medical School," with the object of affording better means of instruction in Medicine and Surgery than those then existing, to Indo-British and Native youths entering the Subordinate Branch of the Medical Service. In 1851 the complement of Professors being complete, its designation was changed to that of "Madras Medical College."

The College is under the immediate control of the Medical Board; but the general superintendence of the Institution, the arrangements for the courses of study and delivery of lectures, are vested in the College Council, which consists of a President, (the Senior Medical Officer among the Professors) and of all the Professors as Members, one of whom is appointed to act as Secretary.

The building consists of a Library, two Lecture Rooms, a Museum of two rooms, and a Chemical Laboratory. There is also a Dissecting Room attached to the establishment.

In 1854 the College numbered six Professors, and the departments assigned to each were:—1, Medicine and Clinical Medicine. 2, Chemistry. 3, Midwifery and Diseases of the Eye. 4, Surgery and Clinical Surgery. 5, Botany and Materia Medica; and 6, Anatomy and Physiology. There are three Assistants to the Professors, two of them East Indian, and one a Native.

The course of Lectures varies every year, but that arranged for the Session 1854-55, comprised 60 Lectures, (including Examinations,) in Botany; 100 in Anatomy; 200 in Chemistry; 70 in Organic Chemistry; 100 in Physiology; 100 in Materia Medica; 100 in Surgery; 100 in Medicine; 70 in Midwifery and Diseases of Women and Children; and 70 in Medical Jurisprudence. The following Table will show the order in which the various subjects of study are pursued as proposed for the Session under notice:—

1st or Junior Class.	Botany	Every Tuesday and Thursday, from	12 to 1
	Anatomical Demonstrations and Dissections.	Daily	1 to 3
	Anatomy	Every Monday, Wednesday and Friday	12 to 1
	Chemistry.	Monday, Tuesday, Thursday and Friday.	10 to 11
2d Class.	Organic Chemistry.	Wednesday and Saturday	10 to 11
	Physiology	Monday, Wednesday and Friday	11 to 12
	Materia Medica	Tuesday, Thursday and Saturday	11 to 12
	Anatomy	Monday, Wednesday and Friday	12 to 1
	Surgery	Tuesday, Thursday and Saturday.	12 to 1
	Medicine.	Monday, Wednesday and Friday	1 to 2
	Dissections & Demonstrations.	Daily from October to March	1 to 4

3rd Class	Surgery	Every Tuesday, Thursday and Saturday . . .	12 to 1
	Medicine	Monday, Wednesday and Friday.	1 to 2
	Midwifery and Diseases of Women and Children.	Tuesday, Wednesday and Friday.	3 to 4
	Diseases of the Eye . .	Monday	3 to 4
	Clinical Medicine, . .	Thursday.	1 to 2
	Clinical Surgery. . .	Tuesday	1 to 2
4th or Senior Class.	Dissections.	{ 3 days a week	10 to 12
		{ Do.	10 to 1
	Medicine.	Monday, Wednesday and Friday	1 to 2
	Midwifery	Tuesday, Wednesday and Friday.	3 to 4
	Diseases of the Eye . .	Monday	3 to 4
	Medical Jurisprudence	Thursday and Saturday.	11 to 12
	Clinical Surgery, . .	Tuesday	1 to 2
	Clinical Medicine . .	Thursday	1 to 2
	Laboratory Practice .	Daily	12 to 1

The different classes of Students and Medical Apprentices, consist of—

1st, 2nd, and 3rd class Native Medical Pupils.
 Private Students (of all castes.)
 Stipendiary Students (Natives)

Medical Apprentices receive as Pay.

	Per Mensem.
Paid Candidates (before joining the College)	Rs. 7
Do. do. (after do. do.)	„ 12
Junior Medical Apprentices	„ 16
Semior do. do.	„ 20

Native Medical Pupils receive.

3rd Class	Rs. 5
2nd do.	„ 7
1st do.	„ 10

Stipendiary Students (or Students specially for the Native Surgeoncies.)

1st Class... ..	Rs. 7
2nd do.	„ 10
3rd do... ..	„ 14

The period of instruction for each Class is as follows:—

For Medical Apprentices	4 years.
Native Medical Pupils	3 „
Stipendiary and Private Students	5 „

There is an Annual General Examination, (the Examiners not being

the Professors,) for the purpose of qualifying for the Public Service, when such Medical Apprentices as pass the ordeal, are promoted to Assistant Apothecaries, and Native Medical Pupils to 2nd Dressers.

	Garrison.			Field.		
	Rs.	A.	P.	Rs.	A.	P.
Assistant Apothecaries' Pay, per mensem ...	55	0	0	70	0	0
Second Apothecaries' " ...	96	0	0	125	0	0
Apothecaries' " ...	115	7	0	145	0	0
Five Senior Apothecaries on the List	250	0	0			
2nd Dressers' Pay, per mensem.....	24	8	0	29	3	9
1st Dressers' "	35	0	0	42	0	0

Of the eighteen appointments of *Native Surgeons* at present authorized, eight will be supplied from the establishment of Native Dressers, and the remaining ten will be open for public competition, in both cases, however, being limited to Candidates of pure Native descent, and Natives of this Presidency. Candidates from the establishment of Dressers, will be eligible for enrolment as students in their order or seniority as First Dressers, if certified to be of good character, and possessed of sufficient professional and general knowledge to justify their admission. In the event of no First Dressers being found qualified, Second Dressers of not less than ten years' service in that grade, may be recommended for admission to College.

Native Dressers are required to pass two Sessions at College, previous to presenting themselves for final examination, for the Native Surgeoncy.

Under no circumstances will a Native Dresser be allowed to remain longer than two Sessions at College.

The Pay of Native Surgeons is as under:—

Native Surgeons.....	Rs. 100
Seven years and under fourteen.....	„ 150
Fourteen years and upwards.....	„ 200

Medical Apprentices are not eligible to be Native Surgeons, (they are restricted to youths of pure Native descent.)

The number of Students in the College during the Session 1853-54 was as follows:—

Medical Apprentices	82
Native Medical Pupils.....	68

Terms of Admission for Medical Apprentices.

The Examination (by the College Council) will comprise—

- 1st. Physical fitness for Military Service.
- 2nd. A thorough knowledge of the English language, to be tested by writing to dictation and examination in Grammar generally.
- 3rd. Simple Arithmetic with Vulgar and Decimal Fractions.
- 4th. Elements of Geometry.
- 5th. A knowledge of one at least of three Native languages being Hindostanee, Tamil, or Teloo goo, sufficient to enable the candidate to speak fluently, and to read and write correctly.

Qualifications required of Candidates for the grade of Medical Pupil.

- 1st. Physical fitness for Military Service.
- 2nd. English reading and Orthography with the meaning of words.
- 3rd. English writing to dictation.
- 4th. Reading and Writing in Arithmetic, Tamil or Teloo goo.
- 5th. The Elementary Rules of Arithmetic, either according to the European or Native method of calculation.

Rules for Stipendiary Students.

1st. They must produce satisfactory certificates of their being of respectable connections and good character.

2nd. They must not be under the full age of sixteen, nor above twenty-five.

3rd. They must have a grammatical knowledge of one or more of the Vernacular languages,—a good knowledge of English, so as to be able to read and write it with accuracy and facility,—Arithmetic as far as Decimals—a good knowledge of the Geography of India, and a correct general knowledge of the Geography of Asia, and of the leading facts of the Histories of England and India.

4th. The above standard of qualifications will be subject to revision from time to time, according as the means of education may be increased.

5th. Applications of candidates are to be made to the Medical Board, by whom they will be submitted to Government, and examinations will be ordered in June or July of each year, according as vacancies may exist.

Military Male Orphan Asylum. This Institution was opened in 1789. Prior to its formation a Charity School existed in Madras, in connection with St. Mary's Church, which provided for the education and support of a limited number of the orphans of Europeans in India, without reference to the professions of the parents of the orphans. On the 14th March 1786, the Court of Directors in their general letter to the Government of this Presidency, took occasion to speak approvingly of a plan which had been set on foot at Calcutta, for the education of the orphan children of that settlement, and recommended its adoption at Madras. On receiving these instructions, Sir Archibald Campbell, then President in Council of Fort St. George, communicated with the Ministers and Churchwardens on the subject, and a vestry was held on the 13th July 1787, when a Committee was formed to consider on the most eligible plan for providing for the relief of "orphan and other distressed male children of the military belonging to the Madras establishment," an asylum already existing for the maintenance of female orphans.

The first step taken by the Committee was to obtain a return of the number of boys on the coast, who might be considered "objects of the proposed institution." This was found to be 230. It was then ascertained that the support and education of each boy, calculating on the experience of the actual cost of supporting the seminaries already established, (the charity schools at the Presidency, Trichinopoly, &c.,) would be ten Rupees a month. Although certain of the liberal support of Government, the Committee thought that the proposed asylum should not be purely a Government institution, but that the public who were mainly to benefit by it, should be called upon to contribute towards its maintenance. Subscription lists were accordingly opened: contributions flowed in from all directions, and a sufficient amount having been collected, Government were asked to defray one-half of the expenses of maintaining each boy, the community undertaking to make up the other half. The President in Council cheerfully acquiesced, but the provision was limited to one hundred boys for the time being. The buildings then known as the Egmore redoubt, were placed at the disposal of the Committee, and the Madras Male Orphan Asylum was opened in 1789, under the superintendence of Dr. Andrew Bell, known to the world as the author of the system of education which bears his name.

Military Female
Orphan Asylum,
situated at Chet-
put on the Poo-
nammallee Road.

This Institution was opened in 1787, for the maintenance, education, and clothing of a limited number of the orphans of European officers and soldiers in India.

The funds of the Institution were raised by subscriptions and voluntary contributions for the support of a certain number of orphans, and the Government allowed a monthly donation of 5 Rupees each for 100 girls from 1st March 1788, and subsequently increased their grant for 155 girls, which allowance is still continued.

The foundress of the Institution was Lady Campbell, who left Madras in 1789, but continued as Patroness of the Asylum during her life, at the special request of the Governor in Council and of the Ladies Directresses.

Black Town
Male and Female
Orphan Asylums.

These Institutions, which are now known as the Black Town Orphan Asylums, originated in the establishment in the year 1807 of a *Free Day School for Boys*, maintained by contributions principally from Members of the East Indian community, and managed by a Committee of that body. The resources at this early period consisted only of public subscriptions, which being carefully husbanded and economically applied, left annually a residue and led to the formation of a Fund; and in progress of time enabled the Committee of Management to establish the *Female Asylum* in 1815, in which orphans were not only to be taught, but to be clothed, lodged, and maintained. In 1823 the *Male Asylum* was opened. The Charity originally contemplated a provision for only 12 orphans in each Asylum, but this number was extended as increasing means permitted, until it reached the present complement of 90 children in each Institution. The interest accruing from the funded property and its present chief means of support, the contributions of the public form another means, but less in amount. Small sums are also obtained by receiving Boarders, and from needle-work executed at the Female Asylum. The Government have recently contributed 500 Rs. per annum, but this aid is granted only in years when the subscriptions from other sources amount to Rs. 4,826, the average of 5 years, and they also allow the interest of 50,000 Rs. from Woolley's bequest, on the condition of the Asylums maintaining, educating and clothing 40 children on that foundation. These Institutions provide for the orphans of Europeans and East Indians who are not eligible for admission into the *Military* Orphan Asylums, and are managed by 20 Directors, 16 of whom are annually elected from the subscribers, 2

are Government Directors, and 2, the Chaplain and the Surgeon of Black Town, are ex-officio Directors. The children are lodged, fed, clothed, and educated gratuitously. They receive a plain English education suitable to their position in society, the elder boys are taught in addition, the Elements of the Tamil and Telugu languages, and the girls sewing, knitting, and needle-work of every description. The Institutions endeavour to provide for the boys, who have attained the age of 15, by finding them employment, whereby they may maintain themselves. The girls, if not withdrawn by relatives able and willing to provide for them, continue to be maintained by the Charity until marriage. The receipts on account of these Institutions in the year 1853-54, amounted to Rs. 10,718, and the disbursements to Rs. 11,700.

The Asylums are two separate buildings, a public road intervening. They adjoin the Black Town Church, and receive considerable attention from the Chaplain of that district, who is President of the Committee.

Friend in Need The Society was originally formed by the Rev. W.
Society. C. Loveless of the London Missionary Society in 1807, but it was not till the year 1813 that its operations were begun on a sure basis under the auspices of the Right Honorable Hugh Elliot then Governor of Fort St. George. It is supported solely by voluntary contributions. The object of the Society is the suppression of mendicancy at the Presidency, and the means employed for its attainment are, personal investigation by the Committee of the cases of all beggars referred to the Society for relief; detection and exposure of the pretences of unworthy objects; relief of the really necessitous, either temporarily or permanently as the case may require or the funds of the Society admit, or by obtaining for applicants relief from other sources, or employment where they are found capable of working. The operations of the Society are confined exclusively to Europeans and their descendants, and to those only who reside at Madras or its vicinity; but the Committee possess the discretionary power of affording aid to poor persons visiting Madras in search of relatives or of employment, or who are on their way back to their own country. Pensions are granted to individuals for a shorter or longer period as the case may be, and these are sometimes continued for life according to circumstances.

There are two workshops in connection with the Society, one for males and the other for females—where a large number of the poorer

classes of East Indians are enabled to earn a small subsistence. The female workshop is in a great measure self-supporting, but the results of the other branch, from the fact that very few of the men are acquainted with any of the handicrafts except rattan work and rope making, are unsatisfactory. These workshops, however, have effected much good, and have been the means of reclaiming many from the paths of idleness and vice.

It is matter for regret that the funds of the Society are reported to be (1854) in a declining state.

The Monegar Choultry. For some years previous to the year 1808, there existed an Institution known as the "Native Poor Fund," for the relief of the needy and infirm. The pecuniary resources of which having failed in that year, the Government in order to provide against a similar occurrence, liberally set apart the sum of 70,000 Rupees, as funded capital for the support of an Institution, having for its object the maintenance of pauper Natives, unable to earn a livelihood from age, blindness, or other bodily infirmity. On this sum, ten per cent. interest was allowed, and is still continued. Thus originated the present institution known as the "Monegar Choultry;" and was thenceforth placed under the supervision and management of a Committee annually selected and appointed by Government.

With the aid of the interest of the funded capital, the munificent annual donations of His Highness the Nabob, (1,050 Rupees), and the contributions and subscriptions of the public, the institution has for the last 46 years, been the means, under Providence, of rescuing from starvation, and all its attendant miseries, some thousands and tens of thousands of Native poor. There is besides attached to the Choultry a Native Infirmary, which was originally established by Surgeon Underwood, and supported by public contributions, and which was subsequently blended with the institution. There is also an asylum for the reception of Idiot and Lunatic paupers,—likewise a Lazaretto, or Leper Hospital, the expenses of this latter branch of the charity were formerly borne by the funds of the Monegar Choultry, but have been subsequently relieved by Government. There is a Surgeon attached to the Infirmary, besides a subordinate medical staff.

Emigration Society.

This Society was formed early in the year 1852, by Sir William W. Burton, one of the Judges of Her Majesty's Court of this Presidency, with the avowed object of encouraging the emigration of East Indians to Sydney; and amongst

the schemes devised for the amelioration of this deserving and increasing class of Her Majesty's subjects in India, this was considered as one of the most useful and liberal; and for which they are entirely indebted to the philanthropy and benevolence of the Judge, who keenly felt the necessity of opening some new field of employment for the more distressed portion of that community, which was denied them in their mother country. From local causes, this class of East Indians are incapable of field labour, or agricultural pursuits; they cannot compete with the ordinary laborers of the country, there being a redundancy, nor can they as tradesmen, mechanics or artisans undersell the Natives, or even obtain employment as domestic servants for indoor work, on wages sufficiently remunerative to provide them with those necessities of life, to which they have been accustomed. Under these circumstances, Sir William Burton's benevolent efforts were liberally supported; and in the month of December in the same year, the first band of Emigrants, of about 50 or 60, left Madras for Sydney, under the most encouraging auspices. The result of this adventure having proved highly satisfactory to the Colonists, as well as to the Emigrants themselves; with the aid of the Madras and the Colonial Governments, one hundred more of this class were embarked for the same destination on the 30th August 1854; but as the undertaking is necessarily attended with large expenditure of money, it is apprehended that it cannot, under present circumstances, be carried out to that extent as to render it of general benefit.

The Marine or Naval School. This Institution was established in the year 1851, by Captain Christopher Biden, the Master Attendant of this Port, for the purpose of providing employment, at sea, for East Indian lads, from 12 to 14 years of age. It has done, and is doing, much good in a quiet and unobtrusive manner. About 250 lads have already passed the school, and have been apprenticed to Commanders of ships in the Royal Navy, the Merchants' Sea Service, and Coasting, or Country Service. The great majority of the lads, who avail themselves of the benefit of this valuable institution, being orphans or paupers, are admitted as free boarders in the school; they undergo training in the ordinary duties of seamen, are occasionally sent afloat to vessels in the roadstead, and on short voyages, and are afterwards apprenticed or shipped on wages according to circumstances. It may not be deemed out of place to observe

that the designation East Indians, is now applied to those born in the country, the offspring of Europeans and of their descendants by intermarriages; and in almost every part of southern India, where Europeans have traced their course the East Indians are to be found. They, at present, form a large class and have the character for intelligence, probity, and loyalty, and some by their energy, industry, and perseverance, have attained the benefits resulting from these qualities; but the great majority are poor and in distressed circumstances. Considering their origin, as the descendants of the dominant race, and belonging to the same Christian Faith,—and their principles of thought and action,—and forming as they do, the link between the governing power and the Natives of the country, they have long regretted that their services are not more generally availed of by Government in the higher offices of the State; for, at present, with some very few exceptions, they are generally employed as ordinary Clerks and Copyists in Public Offices, or enlisted in the Native Army as Drummers, Fifers, Musicians, and Farriers. They are capable of the highest mental culture, and under proper stimuli, they have evinced talents of a high order—they have not only distinguished themselves as Uncovenanted Assistants in Public Offices, but likewise in the science of Medicine—as Principal Sudder Amcons, (Native Judges), Magistrates, Attorneys or Solicitors, Military Officers, Surveyors, Linguists, &c. Their capacity and character would, they confidently believe, secure an abundant recompense for any pains that might be taken to give them a better status. Much sympathy has been excited in England for the Hindoos of this country, but in the contest of parties the position and claims of the East Indian community have been greatly lost sight of. When they were comparatively small in number, and, generally speaking, not so far advanced in education as at present, and despite their depressed condition, they have not failed to elicit the testimony of some of the greatest Indian Statesmen. When writing of this class Sir John Malcolm made the following observations:—

“A just and generous Government will not however have recourse to that narrow principle which apportioning benefits by the power any class of its subjects have of enforcing them, nor will it withhold any reasonable boons, because, it is offended by the temper in which they are solicited. Acting on different grounds, it will give to this, as to any other class of its subjects, that consideration, which is due to

“ their condition, and which fulfils their reasonable hopes without a sacrifice of any essential interest of the empire.”

And the late Sir Thomas Munro, Governor of Madras, in a Minute of Council dated 31st December 1824, made the following forcible and truthful observations :—

“ With what grace can you talk of your paternal government of India, if you exclude the descendants of European fathers by Native mothers from all offices ; and if, over a population of 50,000,000, you enact that no one but a European shall order any punishment ? Such an interdiction is a sentence of degradation on a whole people, from which no good can arise.”

And that distinguished Statesman, the late Lord Metcalfe, when addressing a deputation of the class expressed himself as follows :—

“ That you should be considered or consider yourselves a separate class, is greatly to be lamented ; not less is it so for that there should be any distinctions or separations of any kind in this empire. It must be the anxious wish of every man connected with India, that all classes, Native, East Indian and European, should be united in one bond of brotherly love. If any feelings too natural to be wondered at, caused by the dominion of foreigners, or difference of religious customs, manners and education, render this union at present difficult or unattainable, with respect to our *Native* brethren, we can only hope that such difficulties may in time be surmounted by good government and the enjoyment of equal rights. But there is no reason why East Indians and Europeans, if equal justice be dealt to both, should not be joined in most cordial union, or why any distinction between them should ever exist. But if your community, gentlemen, were to be recognised as separate, it is one of which you have much reason to be proud. Judging from what has come under my own observation, I am not aware of any community in which there is more respectability of character or less apparently of crime or unworthy conduct. In official ability and efficiency you yield to none, and in all pursuits and professions, in arts and in arms, you have representatives of whom any community might justly boast. You have an extensive share in the public business connected with the administration of the government of the country, and the acknowledgement of the value of your co-operation has long been established,

“ is daily increasing, and cannot fail eventually to produce for you important and beneficial results.”

And General Fraser, late Resident at the Nizam's Court, and one of the longest resident Military Officers in India, with ample opportunities of knowing the East Indian character, spoke as follows :—

“ To you, gentlemen, who are not in the recognised service of the British Government, I tender my grateful thanks for the honor you have done me. You belong to a class of our fellow subjects which though not in the Covenanted Service of the Honorable Company, is in every way entitled to respect ; and I trust that the day is not very distant when much of that invidious distinction which now exists will cease to be known, and when you will obtain a large participation in those privileges which are amply due to your merit.”

The Madras Home. This Institution was established on the 1st May 1838, but for its present usefulness it is chiefly indebted to the zeal and energy of Captain C. Biden, the Master Attendant. It is greatly dependent on voluntary contributions from the public, towards which also the Government liberally contribute 100 Rs. per mensem. The Home is designed for seamen generally of all countries, and for soldiers and their families visiting Madras on a temporary sojourn. All other classes are excluded from the advantages permitted to inmates. Sailors who are ascertained to be not undeserving, yet destitute are, if not provided for by Government, fed, boarded, and clothed *gratis*, others who are able to pay their way are bound to do so ; and all are required to take service on any vessel in the roads wanting hands on terms determined by the proper Marine authorities. Any man refusing service is expelled.

Government Central Museum. This Institution is so called because it is purposed shortly to establish numerous Local Museums throughout Southern India, which shall all communicate with this the parent establishment. It originated in 1851, in a proposal by Dr. E. Balfour, and nearly 30,000 specimens in all departments of Science and Art have already been collected in it. It comprises a Natural History Museum ; a Museum of Economic Geology ; a Museum of Geographical Geology ; a Public Library ; a Coin department, and a Gallery of Sculptures. The Museum of Natural History consists of departments of ~~Geology~~ Palaeontology, Mineralogy, Ornithology, Conchology and

Ichthyology. The Geological department already forms a very extensive collection ; the specimens illustrative of the Aqueous Formations, and of the Volcanic, Igneous, and Metamorphic Series of Rocks, being ample for all the purposes of instruction, and the fossils, of which a catalogue has just been published, are particularly numerous and many of them valuable.

. The Museum of *Geographical* Geology has been formed from a very extensive collection of the rocks and minerals of the provinces comprised in the Madras Presidency. It contains already about 5,000 specimens from the Civil and Military divisions held by the Madras army, all of them arranged in separate cases where the geological features of every locality can be separately examined, and it is daily increasing in size and interest.

The Museum of *Economic* Geology is arranged according to the plan adopted for the Grand Exhibition of 1851 under four sections, viz. I. RAW MATERIALS, in the *Mineral, Vegetable, and Animal Kingdoms* ; II. MACHINERY ; III. MANUFACTURES ; and IV. SCULPTURE, MODELS, and the PLASTIC ART ; and contains about 10,000 specimens, all of them having some relation to the wants and occupations of mankind. This Museum will do much to increase our knowledge of the raw and manufactured products of this country. Dr. Balfour has had the honorary charge of the Central Institution ever since its origin, but the salaried officers consist of a Curator, Assistant Curator, and a Mounter, with clerks and attendants, all Natives of the country. Reports are made to Government half-yearly. The first published report, in 1852, gave the details of the Museum ; in the second, in 1853, there was a history of the origin of the Institution ; the third, also in 1853, contained a description of the Marbles of the Madras Presidency ; and the fourth, in 1854, contained a history of the Iron Ores and Iron and Steel of Southern India, and we learn from a Circular that the Woods of Southern India will form the subject of the next report.

The Museum is open to the public daily, from 6 to 9 A. M. and 12 to 6 P. M., and the interest which the community take in the Institution is evinced by the increasing numbers who avail themselves of the privilege.

VISITORS IN THE YEAR.

1851 Last six months.	1852	1853	1854	Grand Total of the 3½ years.
530	2,906	20,096	35,000	58,532

The Government Central Museum, as a whole, though only in its infancy, has made very remarkable progress, and is a credit to Madras.

CHINGLEPUT.

THIS district lies between the parallels of 12° and 14° North; on the sea coast. Part of it is to the north, and part to the south of Madras.

CHINGLEPUT, FCSEL 1260.* Area = 2,993 Square Mils.

1 Cawne = 1 322 Acres.

Talooks.	Cushah or principal station.	Number of Villages	Extent of Land cultivated.			Population.	Land Revenue.	Number of Putahs	Extra sources of Revenue
			Wet & Garden.	Dry.	Total.				
1	2	3	4	5	6	7	8	9	10
1 Caruugooly .	Madranicum ..	256	49,207	Cawnies 11,286	Cawnies 22,870	Rupees 90,787	2,884 Salts	2,884	2,50,471
2 Ootaramulloor .	Ootaramalloor .	174	43,217	12,570	7,215	19,785	2,959 Abkarry . .	2,959	73,200
3 Conjeeveram . .	Conjeeveram .	256	72,305	14,077	3,180	17,257	2,556 Petty Lacuses . .	2,556	13,795
4 Chingleput	Tricuthecoomum	185	39,118	7,111	3,519	10,680	1,982 Motupla . .	1,982	30,193
5 Monnumgulum .	Streepernattoor . .	153	32,628	9,459	5,573	15,032	2,556 Stamps . .	2,556	15,797
6 Teooporoor	Teooporoor	178	28,235	8,522	1,831	10,353	34,580	2,075	
7 Sydapett	Sydapett	187	38,824	10,912	2,561	13,478	61,443	3,087	3,83,456
8 Poonamallee . .	Poonamallee . .	120	31,090	5,772	1,080	6,852	43,001	963	
9 Poddapoliem . .	Trivulloor . . .	195	44,132	13,835	8,163	21,988	1,11,970	2,640	
10 Nayer	Ponnary	186	39,790	14,493	1,457	15,950	1,05,199	4,008	
Total . . . . .	....	1,890	4,18,546	1,08,037	16,163	1,54,200	8,00,376	25,710	5,64,575
Permanently settled Estates	....	425	1,64,916	.	.	.	1,22,616		18,987
		2,315	5,83,462				9,22,992		5,83,462

* From 12th July 1850 to 12th July 1851.

The district of Chingleput is yet often called "The Jaghire." It was originally obtained as such in the year 1763, from the Nabob of Arcot, in return for the services rendered him and his father by the Company, and the grant was in 1765 confirmed by a *Sunnud* from the Great Mogul.

The British Government did not at once take charge of their new acquisition, but rented it to the Nabob on renewed leases generally from year to year.

His system of management was of the same oppressive and unjust character, which marked the administration of affairs in his own territory, the Carnatic. It exhibited throughout a scene of boundless exaction and rapacity, on the part of the Government and its officers; of evasion, on that of the inhabitants; or of collusion between them and the public servants; while the revenue diminished every year with the cultivation. The husbandman was entitled to a certain standard share of the crop, but a considerable proportion of it was extorted from him under the varied devices of *usual assessment*, *forced assessment*, *additional assessment*, *darbar expenses*, and by private contributions levied by the revenue officers, for their own use. When the Court of Directors issued instructions in the year 1775 to the Presidency of Fort St. George, to appoint a Committee of Circuit to investigate the state of the Northern Circars, they directed, in the same instructions, that such Committee should extend its enquiries to the Jaghire, stating that many considerations induced them to keep that territory under their immediate management: that, unless the Nabob agreed to such arrangements as they deemed necessary for mutual advantage, they would no longer consent to his renting the Jaghire; and that the Committee of Circuit should have full liberty to explore the country, so as to ascertain its real produce and revenue, in the manner described in the instructions respecting the Northern Circars. During the time it was held by the Nabob, Mr. Barnard, an Engineer officer, was employed in making a survey of the lands, which he completed in 1776. This survey may be considered to have thrown much more light on a very intricate subject of investigation, than a first attempt could be expected to afford, under similar circumstances; and it was highly creditable to the industry of Mr. Barnard. He possessed no authority in the district, to aid him in the prosecution of his enquiries; difficulties were thrown in his way by the Nabob; and the ~~only~~ ~~sources~~ sources of intelligence to which he could resort, were the

statements of the curnums and inhabitants; which were of course fabricated to serve their own views. The survey was in fact undertaken with a view, rather of forming some tolerable idea of the value of the country, than of ascertaining with precision, affairs of revenue detail.

When the Committee of Assigned Revenue was appointed on the breaking out of the war of 1780, to manage the Nabob's possessions in the Carnatic* the Jaghire was placed in their hands. In 1783, they let out the country in fourteen large Farms on leases of nine years, at increasing rents. In the following year, a Company's servant was appointed at the instance of the Committee, as Resident in the Jaghire, in order to see that the several stipulations contained in the cowles or leases, were put into execution. The Jaghire was twice invaded by Hyder Ali; in 1768, and in the war of 1780, when he entered it with fire and sword. On the termination of the latter war, in 1784, hardly any other signs were left in many parts of the country of its having been inhabited by human beings, than the bones of the bodies that had been massacred, or the naked walls of the houses, choultries, and temples, which had been burnt. To the havoc of war, succeeded the affliction of famine; and the emigrations arising from these successive calamities, nearly depopulated the district. On the dissolution of the Committee in 1786, the general charge and control of affairs was confided to a Superintendent with a clerk, being also a Company's servant, the Resident still continuing to discharge the duty formerly allotted to him. The districts were soon afterwards placed under the sole charge of the Superintendent. In 1788, the Jaghire was formed into two divisions, and each placed under a Collector; and in the following year, it was divided into *three* Collectorships, and the office of Superintendent was abolished. At this time, the renters, with a few exceptions, had repeatedly failed in their payments under the leases for nine years. Their estates were sequestered, and several of them put into confinement. From 1783, when the leases were granted, to 1789, the net receipts into the treasury had not, on an average, exceeded one-fourth of the sum at which they were valued in the grants of the Nabob. The districts were then rented by the Collectors, to the inhabitants, in smaller portions than formerly, on leases for three years.

* Letters from Fort St George, 5th. June 1784, 12th Jan. 1786, 14th Oct. 1786.

Revenue Cons 28th July 1789.

3-pounders. The French under Lally had 300 European cavalry, 600 European infantry, 500 Native cavalry, and 1,200 Native infantry, all disciplined, with two 12-pounders, two 9-pounders, and four sixes; whereas Calliaud had but 80 European foot, and 12 artillerymen, whilst of his Native infantry but 1,500 were disciplined, the remainder being mere rabble.

It would carry us beyond our limits to enter upon a detail of the struggle, which lasted from daybreak till 5 p. m., and terminated in the retreat of the enemy, at the very moment when, from the exhaustion of his ammunition, Calliaud could not have maintained it two minutes longer. We shall merely indicate the two points d'appui of the British commander, which were Carvalho's garden, in which he placed four of his pieces, and a deserted swamy house still standing at the N. E. corner of the present parade ground, both of which posts were obstinately contested through the day, although the latter was won towards the close of it, by a stratagem of the enemy.

Notwithstanding its eligible site as a cantonment, St. Thomas's Mount appears to have been altogether neglected for another quarter of a century, when at length, in 1774, at the recommendation of the then Commandant of Artillery, Colonel James, it became the Head Quarters of that corps, which previously had been in the habit of firing into the sea in carrying on its practice.

Five years previous to this, viz., on the 29th March 1769, the Mount was appointed as the rendezvous, at which the famous Hyder Ali, who had approached within five miles of Madras, was to meet M. Dupré, the senior Member of Council, to treat for peace, and here the treaty was definitively signed on the 2d April.

In 1780, in the month of August, H. M.'s 73d Highlanders, 800 strong, with the same number of Native infantry, and 400 Europeans, infantry and artillery, belonging to the R. I. Company, were encamped at the Mount, in order, in conjunction with Colonel Baillie, approaching from the Northern Circars, to make head against Hyder, who was again ravaging the Carnatic. On the 26th August, this force broke up from the Mount, and proceeded in Baillie's direction, arriving only to learn the utter annihilation of his force, and being compelled to retreat upon the Mount and Madras, harassed by countless swarms of the Mahratta horse. Only five companies of Native infantry, and four guns were left to garrison the Mount, and ~~temporary works were thrown up for their cover. These works have long~~

agents ; and under this denomination was included the principal domestics in the service of a European. Through the means of these relations, they continued to retain the property which they had acquired in the villages ; and by the pretended importance which they were enabled to assume, through their intercourse with Europeans, they kept the inhabitants in complete subjection. Some individuals, the most intriguing and aspiring of the dubashes, attempted to set themselves in the place of the Nabob. They found means to introduce their own aumildars, and other servants, into the management of the country ; fomented quarrels between the inhabitants and the renters, and thus established an authority, far more effectual, than that of the Government of Madras. After a little time, these quarrels subsided, or at least, reached not the ears of Government ; whose principles were so little known, or so easily misrepresented to the inhabitants, that their complaints were addressed to the dubashes themselves, who became the arbiters of all duties.

Towards establishing their authority, the dubashes thought it necessary to give way to the pretensions of the inhabitants regarding their share of the crops, as any thing like an enquiry into their rights, would have defeated their project of supplanting the power of Government, and thereby making the Jaghire a property to themselves. This gave rise to various animosities among the inhabitants. One man advanced pretensions for himself and precluded the rest ; property having been once thrown into confusion was easily invaded. In this state of things the dubash was pampered by both parties. His cows were sent to feed and fatten at the expense of his clients, and their carts and servants employed in his service for whatever purposes he pleased, his favor being the only return expected.

The underling dubashes played the same part on a lesser scale ; so that, when the Company's Civil Servants were sent to the management of the Jaghire, the junto had become so formidable that no one would venture to provoke its wrath. In the progress of this odious system, the former leaders of the inhabitants in a great measure lost their influence, or maintained it only by showing a difference to a set of upstart dubashes who but the other day were subservient to them, for many of them had risen from being common ryots. Nothing could be more irksome to the head men of villages than this humiliation ; but it was impossible in such a state of things, they could resume their proper place in society.

It was an evil to eradicate which, both in that district and in the Carnatic, formed a leading object of the administration of Lord Hobart. On the appointment of Mr. Place to the Collectorship of the Jaghire, his particular attention was therefore called to the necessity of accomplishing so salutary a purpose in that portion of territory. His efforts, accompanied as they were by a vigor and firmness of proceeding which could alone ensure them any success, appear to have had the effect of liberating the inhabitants from the power of a faction, whose views and machinations were alike hostile to their welfare and the general prosperity of the country.

The report to the Board of Revenue, dated 8th June 1799, occupies a whole volume, and contains much interesting information.

In 1802, a Permanent Assessment was introduced, and 64 Mootahs or Estates parcelled out paying to Government annually from 7,000 to 16,000 Rupees each. From the incapacity of the Proprietors, and domestic feuds, most of these fell into arrears, and have been purchased by Government: so that at present it is a ryotwar district. The ancient Tamil tenure of Mccrassee still exists in Chingleput, though not so fully recognised as in Tanjore.

Aspect.

The district in general is low and interspersed here and there with hills; the soil is very indifferent, being sandy with large detached masses of granite projecting in many places. In other parts of the district it is dry, and from want of water, uncultivated; but cocoanut and palmyra trees, native, of such soils are abundant, and thrive without much trouble.

Rivers, &c.

The Palār, whose source is in Mysore (near that of the Pennar). It passes Arcot, Wallajahbad and Chingleput, and falls into the sea at Sadras. The other rivers are very small, viz., the Adyar which falls into the sea at Madras, and the Cheyar which falls into the Palar opposite Wallajahbad. It rises near Changamah at the foot of the Hills dividing Salem from North Arcot. The Corteliar streams rises near the Cauverypauk tank in North Arcot, and flows into the back water at Ennore, 10 miles north of Madras.

The sources of irrigation are chiefly tanks, about 3,000 in number; the water in the tanks collected during the monsoon, is reserved for irrigation in the dry season which lasts for nearly nine months in the year. The large tanks are at Chembrambaicum, Ootramaloor, Red Hills, and Carangooly. The first named is 20 miles in circuit, and irrigates 68 villages and 4,370 cawndies of land.

Soil. The soil of this district is in most parts indifferent.

Rocks, or large detached pieces of granite, project in the fields, and the country is overrun with low prickly bushes.

Produce. Inland, the country becomes more clayey, and is of course more productive. The whole extent of land under cultivation is estimated at 154,400 cawnies,* the proportion of wet to dry land being about three to one; the chief productions are dry grain, betel, oil, fruits, vegetables, cloth, firewood; all of which find a ready market at Madras. The cultivation of indigo has also been undertaken, but not with much success.

The palmyra thrives without trouble, and is both cheap and abundant. The *tari*, or fermented juice, and the *jaggery* or inspissated juice of this tree (the *borassus flabelliformis*) are much esteemed. Bamboos are very scarce, and sell for three times their cost in Calcutta, but recently the inhabitants have been encouraged to plant them round their houses.

The trade of the district is not extensive, and consists principally of grain, betel-nut, and other Native produce which is brought from the western countries, together with cotton thread, and dyes for the cloth manufacturers. Salt of a fine quality is made in great abundance along the sea coast, and the grain merchants load their carriage bullocks and carts with it on their return to the westward. The salt trade is however gradually drawing more to the town of Madras.

Climate. The climate does not materially differ from that of Madras.

Chingleput.

The chief town of the Collectorate, where a Zillah Court is held, lies in a south-west direction from Madras, and distant 36 miles: there being an excellent road between. It was formerly a place of some strength, and is still surrounded by a rampart and ditch two miles in circumference. It is bounded on the eastern and greater part of the northern faces, by an artificial lake two miles long and one broad, from which the ditch is supplied with water. The fort is 400 yards in length from north to south, and 280 in breadth from east to west; it is divided into two parts. The eastern is considerably elevated, and forms what is called the inner fort. The entire western

face and part of the northern, are bounded by rice fields irrigated from the lake, the water of which is retained by an embankment 1,000 yards in length, on the top of which runs the high road leading from Madras to the southward. Small, rocky and bare hills lie to the south and north of the fort, but the country generally around is level and open, and a low and thin jungle occurs in some parts.

The town of Chingleput lies about half a mile to the south-east of the fort. It consists almost entirely of one long street. At the same distance from the fort, is another small village; both are tolerably clean and airy, and the Palār river runs close by the latter.

The inhabitants in the neighbourhood have been generally remarkably exempt from disease, notwithstanding the proximity to the lake from which, when the water becomes low a strong odour arises, from the decay and decomposition of a great expanse of weeds in its bed.

The principal employment of the inhabitants is agriculture, the only article of manufacture being silk, and coarse cloth, and even these are carried on to a very limited extent. The great mass of the population consists of Hindoos; Mahomedans being but thinly scattered over this part of the country.

The public buildings within the fort, are the Jail, a Place of arms, the Hospital, and the Court House. The jail is placed between the outer and inner walls of the fort, on the south side; the site is low and confined, and precludes a free circulation of air. It is however somewhat raised from the ground. The building consists of two portions adjoining each other; one, the largest, is in the form of a parallelogram enclosing an area which contains nine apartments with a verandah towards the area; it is a very old building, formerly a cotton godown, and was converted into a jail in 1802, when the Zillah Court was established here. The other portion occupies two adjacent sides of a parallelogram, the opposite sides of which are the eastern part of the first building, and a high wall on the south; it has also a verandah, and contains four apartments of smaller dimensions. From the situation of this jail the ventilation is imperfect, but the apartments are all kept very clean, and the place is dry.

The Hospital is situated within the fort. It is a long range of building parallel to, and about 20 yards from the western rampart, which shuts it in on the rear; at the sides and in front, it is enclosed by a brick wall. The building is constructed of brick and chunam, painted and tiled, and floored with brick; it is provided with a

verandah in front and rear, and is well raised from the ground. It is divided into three wards, and a dispensary; the wards have no direct communication with each other; they are all well ventilated by doors and windows, the latter of which are secured with iron bars and shutters: one of the wards is appropriated for the sick of the detachment of sepoys on duty here. In the same enclosures are two cells for insane patients of ten feet square. Both jail and hospital are well supplied with good water.

The Treasury is at Conjeveram. The Collector till lately, has generally resided at Pullicarney (a village 15 miles from Madras), or at Sadras, on the Coast.

St. Thomas's Mount.

The cantonment of St. Thomas' Mount, lying at the distance of eight miles from Madras, and to the southward and eastward of it, is situated nevertheless not above four miles inland; the elevation of the hill, as deduced from the measurements given in the plans of the Trigonometrical Survey, being about 115 or 120 feet above the sea level, and the ground on which the cantonment is placed only about 25 feet.

Nearly a century has elapsed since this spot formed the battle-field on the 9th February 1759, between the French and the English; which two nations, both then in the infancy of their power in the east, were struggling for supremacy in India, each being supported by its respective Native allies.

At that period, the site of the present cantonment of the Mount was one unbroken plain as far as Palaveram; there being only a few houses scattered at wide intervals on the direct road leading from Carvalho's garden, opposite the present (so called) Lucky Bungalow, up to the foot of the Mount steps. Even at that early date, those steps were in existence; for the Portuguese, the first European adventurers in the East, had established their Missions upwards of two centuries previously, both at St. Thomas' Mount, and at the Little Mount, two miles nearer to Madras; the Church of "The Expectation of the Blessed Virgin," measuring 109 by 78 feet, on the summit of the former, having been built and endowed by the Crown of Portugal, so far back as 1547.

The English, in the battle of the Mount, were commanded by Captain Calliaud, (see page 182,) and had, including the troops of Mahomed Isoof or Usoff Khan, but 2,200 horse, 2,500 foot, and six

3-pounders. The French under Lally had 300 European cavalry, 600 European infantry, 500 Native cavalry, and 1,200 Native infantry, all disciplined, with two 12-pounders, two 9-pounders, and four sixes; whereas Calliaud had but 80 European foot, and 12 artillerymen, whilst of his Native infantry but 1,500 were disciplined, the remainder being mere rabble.

It would carry us beyond our limits to enter upon a detail of the struggle, which lasted from daybreak till 5 p. m., and terminated in the retreat of the enemy, at the very moment when, from the exhaustion of his ammunition, Calliaud could not have maintained it two minutes longer. We shall merely indicate the two points d'appui of the British commander, which were Carvalho's garden, in which he placed four of his pieces, and a deserted swamy house still standing at the N. E. corner of the present parade ground, both of which posts were obstinately contested through the day, although the latter was won towards the close of it, by a stratagem of the enemy.

Notwithstanding its eligible site as a cantonment, St. Thomas's Mount appears to have been altogether neglected for another quarter of a century, when at length, in 1774, at the recommendation of the then Commandant of Artillery, Colonel James, it became the Head Quarters of that corps, which previously had been in the habit of firing into the sea in carrying on its practice.

Five years previous to this, viz., on the 29th March 1769, the Mount was appointed as the rendezvous, at which the famous Hyder Ali, who had approached within five miles of Madras, was to meet M. Dupré, the senior Member of Council, to treat for peace, and here the treaty was definitively signed on the 2d April.

In 1780, in the month of August, H. M.'s 73d Highlanders, 800 strong, with the same number of Native infantry, and 400 Europeans, infantry and artillery, belonging to the R. I. Company, were encamped at the Mount, in order, in conjunction with Colonel Baillie, approaching from the Northern Circars, to make head against Hyder, who was again ravaging the Carnatic. On the 26th August, this force broke up from the Mount, and proceeded in Baillie's direction, arriving only to learn the utter annihilation of his force, and being compelled to retreat upon the Mount and Madras, harassed by countless swarms of the Mahratta horse. Only five companies of Native infantry, and four guns were left to garrison the Mount, and ~~temporary works were thrown up for their cover.~~ Those works have long

been reduced to the ordinary level, but their historical remains are still to be seen in the excavation crossing the Palaveram plain, to the southward of the Mount, in a direction nearly from E. to W., and known as "the Mahratta ditch." At the close of the year, Madras and the Mount were relieved by the arrival of Sir Eyre Coote from Bengal, and with this event its military history as a scene of active strife may be said to have closed.

The extent of the cantonment, as occupied by public as well as private buildings, is not easily estimated, on account of its great irregularity of form. From the entrance from Madras at the Lucky Bungalow, to the intersection of the upper and lower roads in the direction of Palaveram, the extreme length is about a mile, the width varying at numerous points. To the westward, and immediately under the Mount, are two ranges of European barracks, for the same number of battalions of artillery; one immediately facing the very extensive parade ground, which forms the wings of the cantonment, and the other more to the southward, fronting the Protestant Church, (Government building), and the European hospital. Both barracks have been considerably improved of late, and the ventilation better attended to, whilst the European hospital, by the addition of an upper story, has been made an excellent airy building. The place of arms of the Golundauze, or Native artillery, with the Native hospital, and lines for two companies, is to the southward and eastward of this, and quite off the public road. The lines consist of three parallel rows of brick and tiled houses, each with a brick wall running before it. Lines and a hospital for two troops of horse artillery lie at the southern extremity of the Mount, and are excellent and airy buildings. The Church is a very neat and well ventilated structure, erected in 1825-26, and containing sittings for 500 persons, including 80 seats for officers and families of St. Thomas' Mount and Palaveram, with a pew for the Hon'ble the Governor, and another for the Commandant of Artillery. About three years ago, it was struck by lightning on a Thursday evening shortly after the congregation had departed. The electric fluid twisted the vane, passed down the belfry, and issued through a pane of the window in the vestry, making a small round perforation in the glass.

The other places of worship at the Mount are, a small neat Gothic Wesleyan Chapel at the foot of the Mount steps, in which service is performed every Sunday evening; a building about 200 yards to the

northward of it, formerly occupied as the Church for the European Protestant congregation, prior to the erection of the other building, and now converted into a Roman Catholic Chapel, for the European soldiery of that denomination ; the Portuguese Roman Catholic Chapel on the Mount, named "The Expectation of the Blessed Virgin," which has already been alluded to, and contains 600 sittings, and a smaller one near the Practice ground, close to "Fiddler's Elbow," named "The Presentation of the Blessed Virgin," built in 1764 by the Curriars or boatmen, and supported by voluntary contributions. This is only 74 by 25 feet, and contains about 300 sittings.

The remaining public buildings are the Artillery Dépôt, which has been greatly enlarged since its foundation in 1824, and now contains a model room, which is one of the lines of the Mount, and both a printing and a lithograph press. There is also a Percussion-cap manufactory on the premises, which supplies the whole army of Fort St. George, with that indispensable article of equipment. Immediately to the southward of it lies the Artillery Mess House, acknowledged to be the finest in all India, and able to accommodate a party of eighty at dinner without inconvenience. Erected in the form of a double T, the southern cross contains an excellent library, whilst the opposite end is fitted up as a ball room, with the orchestra bayed out from its centre. In the compound are the billiard room, the racket court, and the smoking divan. The old Laboratory, in the direction of the Practice ground, is now chiefly used as a store room.

The men have also their places of resort for amusement or instruction. Each barrack-square contains a ball-alley ; there is a skittle ground, and bagatelle boards in a very excellent canteen, which also takes in newspapers and periodicals ; there is a coffee room in the parcherry well supported, and a prayer-meeting building, very fairly attended. There is a school for the children of the cantonment, which numbers a considerable per-centage of them as pupils, and one for adults in the progress of erection on the top of the most southerly range of barracks.

Karkhanah Lines, or Cattle Dépôts, for three batteries, occupy the vacant space immediately in front of the north face of the Mount ; the solitary cells for the European foot artillery lie to the right of these, those of the Horse artillery being perched on a spur of the Mount near their own lines ; and immediately in front of these lies the burial ground, which, although extensive, is nearly tenanted to its capacity,

which has been greatly limited by the number of monuments erected in it.

Of monuments and memorials of distinguished officers of the corps of artillery, there are the cenotaph to Colonel Dalrymple, at the N. E. angle of the parade ground; an obelisk in memory of General Sydenham, in the Church compound; a granite column to Colonel Noble, c. B., erected by the men of the Horse artillery, on the shoulder of the Mount overlooking their lines; a magnificent half length marble bust by Chantry to the same, placed by the officers of the corps in the Church; and handsome marble tablets to the memories of Colonel Derville, Major Oakes, Captain Byam, Lieutenant Beadnell, Surgeons Porteous and Grant. The Artillery Mess House contains also two fine oil paintings, hung at either end of the dining room, of the present Major General Montgomerie, c. B., and of Colonel Noble, c. B.

The batteries for the annual practice of the corps are raised on the left of, and in a direct line with, the northern wall of the Churchyard. The butt raises its head at 600 yards in front and to the north, and the range may be said to be unequalled in extent, being about 5,000 yards.

Of bazaars there may be said to be two, one called the Bengali, or Big Bazaar, which commencing at the southern extremity of the cantonment at the Palaveram entrance, runs down the back of all the private houses and the Golundauze lines, until it emerges on the Mount road close to Saib's Choultry. The other, in like manner, runs down the back of the European barracks on the other side, terminating at "Fiddler's Elbow," near the Karkhanah lines. The Cantonment office is but a small building, and the Police one has been migratory; but an estimate for a proper edifice for both has at length been sanctioned.

The number of terraced or upstairs houses bears but a small proportion to that of bungalows, properly so called; but few of them are destitute of good gardens, and the Mount has always struck the stranger as a "pretty" cantonment. The band plays twice a week, (Wednesdays and Saturdays), on the parade ground, which in the course of a short time, will be surrounded by a handsome invisible wire fence, now on its way from England.

The Mount itself, from which the station derives its name, is about 220 feet high, and has a signal station on the summit, from which vessels approaching from the southward are made out in ordinary

weather, a considerable time before they are visible from Fort St. George, and it is also a matter of ordinary occurrence that the long trailing smoke of a steamer approaching from the northward, is also first apparent from the Mount.

The soil of the Mount is dry and gravelly, and the rocks in the vicinity consist of greenstone, binary granite, and laterite. The temperature in the hot season rises about two or three degrees higher than at Madras, and the surface of the soil and the atmosphere are then so heated, that the sea breeze, after it has set in, acquires a heat as fierce as that of the land wind, which it has replaced, and retains it in some instances even till 8 p. m. On the other hand, in the cold season, owing to the radiation from the soil not being tempered by the sea breeze, and to the prevalence of ground fogs early in the morning, the temperature before and a little after sunrise is about as many degrees below that of the Presidency. The population, including that of the Europeans, which is the most fluctuating, may be estimated at about 20,000, the greatest proportion of which is Hindoo and Pariah.

The climate of the Mount is esteemed salubrious; and cholera, though not unknown, does not prevail to the extent which it does in other parts of the Presidency. When it visits the Mount, it is chiefly confined to the bazaars and the lines of the Native followers of the Horse artillery. One solitary instance of its adherence to Europeans occurred in 1824, when H. M.'s 48th regiment, recently arrived from New South Wales, in consequence of its suffering severely from cholera, was ordered up to the European barracks for a change in May, the artillery being marched down to occupy the barracks vacated by them in Fort St. George. Both parties met at the Cenotaph, broke off, and freely intermingled with each other for half an hour. The artillery, although moving into barracks which no steps had been taken to purify, had but two cases, both of which recovered; the 48th retained the cholera for three or four months, and it was almost wholly confined to the corps. Fever of an obstinate remittent type appears more prevalent than formerly, which may be attributed in a great measure to the unchecked growth of the hedges.

Palaveram.

The cantonment of Palaveram, or as it is also called the Presidency cantonment, lies ~~three miles~~ south of St. Thomas's Mount, situated

close to the western side of the Palaveram range of hills, and four or five miles in a direct line from the Coast.

The cantonment which is exclusively for Native troops, is upwards of a mile in length, and about half a mile in breadth, and is laid out for four regiments of infantry. The range of hills extends along the whole length of the cantonment, which is disposed in the following manner. the officers' houses are close to the hills in four rows, intersected by four cross streets; in the first row are the quarters of the commanding and field officers; in the second and third, those of the captains; and in the fourth are the houses of the subalterns. An open parade ground of 300 yards in breadth, extends from the officers' lines to the barracks, which are four in number and in a line with each other—the main guard, a two storied building, in the centre. The barracks or places of arms are equi-distant, and about two hundred paces apart. At a short distance in rear of the barracks is a space of ground 200 yards in breadth, allotted for the huts of the men; and somewhat more distant are the hospitals, which are also four in number, and in a line with each other, each being flanked by the serjeant's quarters, and the regimental store rooms. The solitary cells are placed near the main-guard.

The officers' houses are well built, constructed of brick and chunam. A few of them have terraced roofs, but they are generally tiled, and for the most part they are raised a few feet from the ground. The rents are moderate, and the houses sufficiently commodious.

The barracks and hospitals are very substantial buildings, with arched roofs, and granite floors. Each hospital consists of one long ward calculated to contain 50 patients. They are provided with verandahs in front and rear, the ends being enclosed so as to form four small apartments, which serve as a dispensary, surgery, store room, and bath room. The walls and arched roofs of these buildings are of solid masonry, and the floors are raised three feet from the ground. The ground from the base of the hills slopes gently in the direction of the barracks and hospitals, which are well drained, there being a separate drain round each building leading to three main channels, which run into the Adyar, distant 300 yards in the rear. The stream however at this place is, from the level nature of the country, very sluggish; and in the monsoon season the buildings are under water, the ground being swampy nearly up to the officers' houses, and the huts of the men having occasionally been washed down. In place,

therefore, of being huttet in the locality described, lines have been erected for them near the bazaar to the right of the cantonment about half a mile from the nearest barracks, where the ground is higher. The present lines, as also the bazaar, are kept remarkably clean and dry.

There have been seldom more than two regiments stationed at Palaveram for several years past, and frequently only one, but formerly the number was kept complete to garrison Fort St. George, for which purpose one regiment was sent down to Madras monthly.

The place has generally been found to be very healthy, for although the hills shut out the sea breeze in a considerable degree from the houses more immediately in their vicinity, those more distant enjoy it partially, as the wind passes through an opening in the centre of the range, and also round its southern extremity.

Near the hill the soil is composed of disintegrated rock consisting of greenstone, gneiss and coarse sandstone; at a little distance it becomes sandy, and laterite is found near the surface.

There is but little cultivation in the immediate neighbourhood; and for some distance around the country is quite clear of jungle, with the exception of a few scattered cocoanut and palmyra trees. The cantonment is well supplied with pure and wholesome water, there being good wells in almost every compound.

Poonamallee.

A station 13 miles due west of Madras, and 4 or 5 miles north of St. Thomas's Mount. It is only used as a depôt for the Recruits and Invalids of H. M. service, who are accommodated in barracks capable of holding 500 men. A chaplain is also stationed here.

The cantonment of Poonamallee is half a mile square, intersected by the great western military road from Madras. It is well drained, and being quite free from stagnant water and noxious vegetation, is very salubrious. The barracks are situated at the west end of the cantonment. They are well ventilated, and provided with outer and inner verandahs.

To the east of the barracks, distant 400 yards, lies the old fort of Poonamallee. It is square in form, and is surrounded by a parapet eighteen feet high. Cells are erected at the four corner bastions of the fort for men sentenced to solitary confinement, and within the fort are a magazine, ranges of store rooms for the clothing and arms

of Her Majesty's troops, and godowns for barrack supplies. There is likewise a hospital within the fort capable of accommodating twenty men.

Six hundred yards south-east of the fort, stands the pettah or Native village. It contains a Native population of 7,000 souls, exclusive of 200 sepoys and their families.

Recruits generally arrive from England in the months of September and October, and remain at the depôt until after the north-east monsoon; and invalided men come down from the stations in the interior, about the end of the year, for the purpose of being sent to England.

Pulicat.

25 Miles from Madras.

A town in the central Carnatic on the Coromandel Coast, situated on the borders of a lake. It formerly belonged to the Dutch who established themselves there in 1609.

The Pulicat lake is a backwater or lagoon, owing its existence to the sea breaking through a low sandy beach, and overflowing the lands within. Its communications with the sea are extremely narrow. This lake is in extent nearly 50 miles from N. to S., 11 miles across in the broadest part, and 2 in the narrowest, and comprehends several large islands. The tide has free entrance, so that the water is constantly changed, yet brackish. On one of the large islands at the southern extremity of the lake, the town of Pulicat is situated in Lat. 30° 25' N., Long. 80° 18' E.

A canal called Cochrane's Canal, (see Madras), was many years ago excavated from Madras to meet a narrow backwater which stretches southwards from the lake, so as to form a continuous navigation. The length of the excavation, which is in two portions, is about 14 miles. It greatly facilitates the importation of charcoal, firewood, vegetables, and other articles of daily consumption, to the Presidency markets.

Wallajahbad.

40 Miles from Madras.

A military station,* 30 miles inland from the coast of Sadras; in Latitude 12° 58' N., and Longitude 79° 39' E.

* This cantonment has lately been given up, and the Veteran Battalion removed to Arcot.

The site of the cantonment is on a piece of ground gently rising above the surrounding plain, though not many feet above the level of the sea. It is three quarters of a mile in length running south-east, and nearly half a mile in breadth. The Palār river is about 500 yards distant to the south. A large tank called Tinnerey lies on the north side, and the populous town of Conjeveram on the west, distant between six and seven miles.

Several small hills of granite lie between it and the sea coast, the nearest of which is distant two miles and a half, and the highest is not more than 500 feet above the level of the sea. These hills are perfectly bare and devoid of all vegetation.

Close to, and parallel with, the left bank of the Palār river is a streamlet, which contains running water throughout the year, and from which the cantonment, and also the village, are abundantly furnished with drinking water. There are also numerous good wells in the cantonment, generally sunk in sandy or gravelly beds.

The village of Wallajahbad lies to the south-east of the cantonment, half a mile distant, and consists principally of one street running east and west. From its vicinity to the river, and a considerable nullah passing through it, the town is well drained and is tolerably clean, airy, and dry.

The soil in the immediate neighbourhood is sandy, mixed with a marly clay, with here and there granite rocks interspersed, and the country for several miles round is partially covered by a thin stunted jungle, occasional clear patches of land intervening, in which cholum, bajra, and wurradoo are grown.

Near the cantonment, especially on the north side, is a tract of paddy fields watered from the Tinnerey tank; and besides these there is but little vegetation round the station, excepting a few straggling palmyra and tamarind trees.

The climate differs very little from that of Madras. Both places are under the influence of the same monsoons, and the distance of Wallajahbad from the coast is not so great as to prevent the sea breeze from reaching it. In the months of January, February, and March, fogs prevail, but are not found to be unhealthy.

Tripasoor.

30 Miles from Madras.

A small decayed town in the Carnatic, on the Bellary road: Latitude $30^{\circ} 7' N.$, and Longitude $79^{\circ} 52' E.$

It was formerly a station for Cadets, but now for those pensioned European soldiers, non-commissioned and privates, who prefer remaining in the country.

The remains of the old stone-rivettèd fort still exist. Within its circumference are the cottages of about ninety-six Chelsea out-pensioners, barracks, a bungalow for travellers, and a large Hindoo temple. There is also a school; and places of worship for Protestants, Dissenters, and Roman Catholics. The staple article of cultivation is rice; the fields are watered by a neighbouring tank. There was formerly a manufactory for indigo, which has been given up.

Allamparva.

In Lat. $12^{\circ} 16' N.$, Long. $30^{\circ} 3' E.$; 65 miles distant from Madras. Is a village on the N. boundary of the Chingleput district, on the coast road from Pondicherry to Madras. Excellent water is obtained here, and it used to be famous for its oyster beds.

Allamparva was formerly a place of some note, and possessed a fort, which was taken from the French by Sir Eyre Coote in March 1760. According to Orme, Allamparva was originally given in 1750 to Dupleix by Moozuffer Jung, the Soubedar of the Deccan, who owed his position to the French. The fort was of stone, square, of moderate extent, with four round towers at the angles, a parapeted *fausse-braye* and a wet ditch, but without a glacis. A Pettah extended along the strand to the north of the fort.

Conjeveram

45 Miles from Madras.

A town on the western boundary of the Chingleput Collectorate. It is large, pretty, and regularly built; the streets are broad and planted with cocoanut trees, and a small stream runs along its western side. The soil in the neighbourhood is somewhat clayey, from the decomposition of the felspar which abounds in the granite, and proves very fertile; the river and surrounding tanks are also favorable to cultivation. The inhabitants are principally ryots and weavers. Many Brahmins reside here, and the large pagoda or temple at Conjeveram is greatly famed in Hindoo Mythology. It is one of the strongholds of Hindooism in Southern India.

Conjeveram is considered, particularly by the worshippers of Siva, as little inferior to Cāsi (Benares) in point of sanctity. It is here they suppose that the great Hindoo *trīmūrti*, or divine triad, descended to celebrate their marriages. It is the traditional site of a great sacrifice performed by Brahma, also of the penance performed by the goddess Parvati for involving our orb in darkness, by obscuring the light of the sun and moon, and of the homage of Rama for polluting the country with the blood of the giants he had slain in combat. Sarasvati and Lachmi are also supposed to have been born here. The Jains, in opposition to the followers of Siva and Vishnu, lay prior claim to the place, and their assertions derive some colour from the ancient Jaina sculptures discovered on the spot. The Treasury and Records of the district are at Conjeveram, but no Collector has lived there since the time of Mr. Vivcash. There is in the town a very thriving school for Native boys and girls belonging to the Mission of the Free Church of Scotland.

Covelong.

22 Miles from Madras.

A village, but formerly a respectable town, on the sea coast of the Carnatic, in Lat. $12^{\circ} 46' N.$, Long. $80^{\circ} 18' E.$ The fort now demolished was called by the Natives Saadut Bunder, and was built by Anwar-ud Deen, within musket shot of the sea near the ruins of another belonging to the Imperial East India Company of Ostend, whose principal factory was at Covelong. The sea shore here affords many beautiful shells.

In 1750 Covelong fell into the hands of the French through stratagem. In 1752 it surrendered to Lord (then Captain) Clive. The fortifications were blown up after the capture of Chingleput.

Sadras.

A town on the sea coast in Lat. $12^{\circ} 31' N.$, Long. $80^{\circ} 14' E.$; is 42 miles from Madras. It was a place of importance in the time of the Dutch, who first occupied it in 1647. The old fort is now a ruin. This place is sometimes resorted to by the officials of the district during the hot weather, in order to refresh themselves with the sea breezes.

Mahabalipuram

Or according to the Natives, Māvellipuram. A village on the sea coast, 35 miles S. from Madras; Latitude $12^{\circ} 37' N.$, Longitude $12^{\circ} 14' E.$, more generally known by the name of "The *Seven Pagodas*." It is celebrated for the sculptured rocks in its vicinity. It lies about 2 miles to the left of the Sadras road at Powlacaren Choultry, which is 33 miles from Fort St. George, Sadras being $40\frac{1}{2}$. A traveller visiting it in 1831, says:—"On passing the salt pits, late in the evening, that lie between the village of Myanoor and the sculptures, the booming of the surf breaking on the shore of the legendary ocean-whelmed city of the great Bali became distinctly audible, and after half an hour's ride through some thick brushwood, interspersed with the stately palmyra and graceful banyan, I came abruptly upon the carved and fissured rocks looking most fantastically in the flood of moonlight then poured upon them: their height is inconsiderable, much less than I had expected. After passing the night in a choultry facing the sea, I proceeded early the next morning to the old temple on the sea shore. In it is a large recumbent statue, evidently of Vishnu, lying upon and encircled by the folds of a cobra, having its hood expanded like an umbrella over his head, carved from a single mass of rock; other sculptures connected with this temple, however, are indicative of the attributes of Siva—for instance, the blackened Lingum in a recess, and the Sacred bulls on the corners of the building. Bishop Heber, who visited the place in 1826, observes, that the sculptures differ from those of the north and west of India, (which are almost all dedicated to Siva or Kali,) in being in honour of Vishnu, whose different avatars are repeated over and over in the various temples, while he only saw the Lingum in the sea and one unfinished cave which struck him as intended for a temple of the destroying power. Heber with that discernment that characterizes most of his remarks, doubts whether this solitary Lingum be a true one: it is, in fact, merely the Sthamba or Pole frequently seen in front of Hindoo temples to support the customary lamps. It stands about ten paces in front of the old temple washed in the spray of the sea which was originally dedicated to Vishnu. There is no doubt, I think, from the emblems of Siva that decorate it, that the fane has been *subsequently* occupied by the priests of Siva. Those ignorant of the Stalla Puranam or written legends of the place, inferred that Maha Bali Chacraverti ruled here, and hence called the

place Mahabalipuram, and some term it Mavalipuram. Both of these names are erroneous ; and are known to be so from the local Puranam. Mr. Chambers states that the Brahmins of the locality, quoting the Mahabhārat, refer to the 4th avatar of Vishnu, who assuming a lion's form, tore the tyrant prince Hirinakassap to pieces. Bali, grandson of the latter, founded the city : hence its name Mahabalipur. Indra, god of the heavens, jealous of its rising magnificence, loosed the chains of the ocean and utterly overwhelmed it, in the time of its ruler Malecheren. The situation of the city of Mahabalipur, as laid down in the Mahabhārat, however, militates against the supposition of this having been its site. It is fixed at 200 yogen south of the Ganges, and five yogen westward from the eastern sea. Taking the yogen at its lowest estimate, viz., nine miles, this would bring the site of the city south of Ceylon. One of the sculptures of which notice will be taken, it must be confessed, affords a slight colouring of truth to this local tradition.

“ The temple on the sea shore is supposed to have formed one of the seven temples to which the place owes its name, viz., ‘ the Seven Pagodas ; ’ five of them are said to lie submerged under the surf that almost washes its base. The seventh is the large temple to Vishnu near the village. There are many other sculptures scattered about the rock in which we may trace marks of the worship of Siva : some of them there will be occasion to mention as we proceed. The sun had not yet risen when, on quitting the temple, a scene similar to that depicted by Heber in such vivid colours, arrested my attention—the crimson-tinted sky, the dashing of the surf over the rocky fragments, which the Brahmins might easily imagine to be the ruins of the ocean-whelmed city, added to the air of desolation prevailing around, strongly reminded me of his poetic and faithful description. Nearly two hundred yards south of the old temple I had just left, stood several large stones half immersed at high water, on some of which were carved the semblances of lions and tigers with grinning heads. About a quarter of a mile inland from the temple stand the carved and excavated rocks ; the relics according to tradition of the metropolis of the ancient kings of the Pandu race. From the sea shore they appear to run almost parallel with the line of coast, and give one the idea of the ruins of a long range of fortifications. The first approached of this mass of sculptures is a small but elegant fane, containing a statue of Ganesa, completely blackened by oily libations,

and having his elephantine neck adorned with a chaplet of recent flowers. Passing through several windings among the rocks, we entered a temple to Vishnu excavated in a large mass of rock, and supported by handsome pillars, the bases of which rest on tigers, all apparently carved from the same mass.

“The wall exhibits a bas-relief of Vishnu who is presented as having thrown off the form of a Brahmin dwarf, under which he had persuaded the giant king Bali to grant him three paces of his kingdom, to assume that of a giant, and wielding a variety of weapons in his right hand over the head of the affrighted tyrant, strides from earth to heaven. This piece of sculpture is considered by Heber to possess much merit, and is the only one which has reference to the supposed connection of these ruins with the great Bali. In another compartment the goddess Durga (identical with Kali, consort of Siva) is seen surrounded by adorers; also a ludicrous, and not particularly decent representation of Vishnu as the Varāha or Boar Avatar, and his wife Lutchmi, the goddess of fortune. Not far from this we see the latter seated on a throne. Female attendants on each side support vessels of water which two elephants take from their hands, and discharge the contents over the head of the goddess. Quitting the temple, we next came to a ponderous globular mass of stone, apparently about 60 feet in circumference, nicely balanced on the smooth surface of a shelving rock: this, as the legend runs, was once a mass of butter, and metamorphosed into stone at the prayer of Krishna. A little beyond the ‘petrified butter,’ through a cleft in the rock, we are shown a circular excavation which is exhibited by the Brahmins as the churn in which the butter was manufactured. Close to this stands a small temple, dedicated to Siva, containing bas-reliefs of that deity, his son Subramanya, and of one of the seven holy Rishis. North of the temple the Brahmins point out the site of a small fort, and palace occupied by the ancient kings, and a bath excavated in a mass of rock used by the royal princesses. The scattered remnants of bricks and tiles lying about are cited in proof of these assertions: and it is not far from probability, that they all once formed part of an enclosure to screen the bath. To the left of the alleged site of the palace, on the southern extremity of the cliffs, rises a small and remarkable monolithic pagoda carved from the rock on which it stands; underneath it we enter an excavated recess containing a recumbent statue (of Vishnu?) of colossal dimensions, reclining amid the coils of an enormous

five-headed cobra whose extended hood canopy his head. Two spiritedly executed figures stand at his feet bound together, one grasping a ponderous mace as if guarding their sleeping deity. Opposite this group, Durga is seen mounted on a lion attacking Yem Rajah, a buffalo-headed monster. The graceful form of the goddess, armed with the weapons characteristic of ancient Hindu warfare, contrasted with that of her savage and malevolent adversary, is a fine effort of the Hindoo sculptor. She is engaged in rescuing from the clutches of the giant, a figure which is seen between them in an inverted position. The outer compartment exhibits a group of no particular merit composed of the Hindoo Trimûrti, or Triad, (viz. Siva, Brahma and Vishnu,) and a figure of Parvati.

“ After descending this hill we proceeded to view the sculptured rock facing the sea directly in rear of the travellers’ choultry, which cannot be less than 20 feet in height by 70 or 80 in length. It is literally covered with the figures of gods, men, and animals, in basso-relievo, representing scenes taken from the Mahabhārat. Among the most spirited of the groups is one representing the emaciated Arjun imprecating the god Krishna, in the presence of a venerable personage, by some supposed to be his father, but which appears to me to be that of a holy Rishi. Another, exhibiting an elephant, large as life with her two young ones, is admirably executed. Heber, no incompetent judge, alluding to these bas-reliefs, observes, that ‘ many of them are of great spirit and beauty ; there is one of an elephant with two young ones strikingly executed ; and the general merit of the work is superior to that of Elephanta, though the size is extremely inferior.’ I perfectly coincide with him in inferring that the critics who have praised the figures of the lions in this collection of bas-reliefs, ‘ must have taken their idea of a lion from those animals which hang over inn-doors in England, being in fact precisely such animals as an artist who had never seen one would form from description.’ The best executed figure of the king of beasts is that on which the goddess Durga is seen mounted, in the sculptured cave near the summit of the hill. Fullarton, an intelligent traveller, is of opinion that these sculptures of Māvellipûram in their general character resemble greatly those of Ellora, and elsewhere on the west coast of India, but are on the whole in a sharper style and in a higher state of preservation. The rock is penetrated by a perpendicular cleft that is most probably ascribable to the known tendency of granite, and other massive rock, to split from internal causes, radiation of heat, or electric agency.

“About a mile and a half south of these rocks near the road to Sadras, in a grove of palmyras near the sea, is a cluster of insulated rocks of much inferior size, which have been sculptured into the form of five pagodas : the rude figures of an elephant as large as life, and a lion larger than life similarly carved, stand in the rear of the pagoda, the latter facing towards the north and the former in a southerly direction. Mr. Goldingham by measurement found the southernmost of these pagodas about forty feet in height, twenty-nine in breadth and nearly the same in length, and the outside covered with sculpture : the next is about forty-nine feet in length, in breadth and height twenty-five, and is rent through the middle from the top to the bottom ; a large fragment from one corner is observed on the ground. Mr. Goldingham remarks ‘no account is preserved of the powerful cause which has produced this destructive effect.’ It may, I think, be referred to similar causes as the cleft in the sculptured rock near the choultry alluded to above. These sculptures, although in an unfinished state, appear from the similarity of design and execution to have been cotemporary, or nearly so, with those at Māvellipuram. With the exception of the ancient temples of brick near the sculptured rock, the temple in the village, and a few others, the buildings are carved from the solid granite, and many of them monolithic. The difference of style in the architecture of these temples and those in the vicinity has been remarked by almost every traveller who has seen them, and I agree with Mr. Goldingham in the inference that the artists were not of this part of the country. The resemblance existing in the sculptures of Māvellipuram, Ellora, and Elephanta, has been already noticed by Mr. Goldingham and Mr. Fullarton. The labour of excavating, and chiselling these edifices and statues, must have been immense when we consider the hard nature of the rock. The rock of Ellora and Elephanta is mere indurated clay comparatively speaking. The Brahmins of Māvellipuram informed the former of these authorities that their Puranas contained no account of any of the structures there, except the stone pagodas near the sea, and the pagodas of brick at the village, built by Dherma Rajah and his brother ; they added the following tradition : ‘A northern prince, about one thousand years ago, was desirous of having a great work executed, but the Hindoo sculptors and masons refused to execute it on the terms he offered. Attempting force,’ he supposes, ‘they, in number about four thousand, fled with their effects from his country

‘ hither, where they resided four or five years, and in this interval executed those magnificent works. The prince at length discovering them, prevailed on them to return, which they did, leaving the works unfinished as they appear at present.’

“ With regard to the important geological fact of the sea having here overwhelmed a large and magnificent city, over whose ruins the surf now breaks, as traditionally affirmed by the Brahmins, the following observations made by different travellers, should be commemorated for the guidance of future observers, viz.: A Brahmin about fifty years of age, a Native of the place, informed Mr. Goldingham who writes about 1806, that his grandfather had frequently mentioned having seen the gilt tops of five pagodas in the surf no longer visible. Mr. W. Chambers who visited the ruins in 1772 and 1776, mentions a brick pagoda dedicated to Siva and washed by the sea also no longer visible; but I concur in opinion with Mr. Goldingham that, as the Brahmins have no recollection of such a structure, and as Mr. Chambers wrote from memory, it is probable that the present stone pagoda on the shore must be the one alluded to by him. Even the *vivâ voce* information of Mr. Goldingham’s Brahmins, should not be taken without correlative testimony. Bishop Heber, who visited the place in 1826, notices the tall pillar in front of the temple as being in the waves. This pillar I found in 1831 to be merely within reach of the spray, and I also observed several sculptured rocks which at high water must be nearly submerged. From many enquiries that I have made regarding the encroachments of the sea on various parts of the Coromandel Coast, I am led to believe, that it has advanced and receded alternately within the last 150 years, that in this part it is now receding, and that during a former recession most of the now submerged ruins were built.”

NORTH ARCOT.

THE District known as the "Northern Division of Arcot," originally consisted of that portion of the Soubah that was situated north of the river Palār: after the war with Tippoo (in 1792), the divisions of *Kistnagherry* in the Baramahal, and *Oosoor* in the Balaghaut, were added, but were subsequently transferred to Salem. About the same time (1804), five talooks *south* of the Palār were transferred from South to North Arcot, together with the Jag-hire of Arnee; and the district of Satwaid was also transferred from Chingleput to North Arcot.

Arcot.
Trivatoor
Wandiwash.
Puloor
Vellore.

NORTHERN DIVISION OF ARCOT, JULY 1260 * Area = 5,790 Square Miles.

Talooks.	Cushah or prin- cipal station	Number of V. lages	Population.	Extent of Land cultivated.			Land Revenue.	Number of Put- tubs.	Extra sources of Revenue
				Wet and Garden	Dry	Total.			
1	2	3	4	5	6	7	8	9	10
1 Chittoor...	Chittoor	93	85,595	Cavvies 7,486	Cavvies 14,346	Cavvies 21,832	Rupces. 1,38,855	13,030	
2 Tripetty...	Tripetty	92	49,244	2,112	1,840	3,952	38,888	2,741	21,045
3 Cauverpauk...	Wallajahpett.	171	84,544	18,402	7,778	26,180	1,81,685	10,558	1,35,000
4 Sholingur...	Sholingur	109	55,823	10,241	14,145	24,386	98,092	6,166	Abkary.
5 Trivellum...	Trivellum	132	67,375	8,599	14,090	23,589	1,30,685	8,520	Petty Licenses.
6 Saugur...	Goorattum	209	86,612	6,783	20,926	27,709	1,36,762	9,452	Moturpha 38,663
7 Gudapanuthum	Pulmanair.	355	42,230	4,143	9,802	13,945	60,136	6,250	Sea Customs . 03
8 Arcot...	Arcot	138	74,137	9,071	13,111	22,182	1,22,727	8,173	Stamps . 27,866
9 Vellore...	Pulliconda	192	1,36,140	8,858	22,482	31,340	1,72,502	14,254	Total 2,30,002
10 Trivatoor	Trivatoor	270	71,847	12,755	10,015	22,770	1,65,511	9,628	
11 Puloor...	Puloor	199	71,065	10,574	14,642	25,216	1,25,292	10,339	
12 Wandiwash	Wandiwash	231	60,196	7,860	12,400	19,760	1,16,470	6,726	POPULATION.
13 Satwaid	Nagapooram	144	66,167	16,573	7,888	24,461	70,564	6,238	Hindoos. . 14,13,838
14 Pennur...	Pennur	359	54,471	2,408	4,676	7,084	70,457	7,555	Mahomedans } and others not }
15 Venkatagerry	Pulmanair.	205	18,262	1,765	4,914	6,679	20,004	2,963	Hindoos. . 72,035
Cotta. . .									
Total.....		2,899	10,13,698	1,27,130	1,73,955	3,01,085	10,40,030	1,12,453	
Permanently set- tled Estates.		1,972	4,72,176	.....	..	...	4,44,190	2,937	14,85,873
		4,771	14,85,873				20,84,220	1,25,390	

* From 12th July 1850 to 12th July 1851.

At the time of the cession of the Carnatic, there were several independent Pollams in North Arcot, known as the "Chittoor Pollams," besides the great Zemindaries of Calastray and Cavetnuggur.

Three of the resumed Pollams, viz., Mogaral, Poloor, and Pakala, were in 1826 formed into a talook called Penmurry, which in 1851 was joined to Tripetty; the two forming now one talook called Chundragherry.

In Penmurry there are still the free Pollams of Culloor and Poolicherla, (now in the Chundragherry talook,) and in the Chittoor talook those of Vencatagherry, (*alias* Bungāra Pollam,) Toomba and Nargunttee. Near Tripetty there are three Mocassa Pollams, viz., Māmundoor, (resumed in 1847) Curcumbādy, and Kistnapooram. They pay no pēsheush to Government, and were granted 500 years ago to the Poligars, for the protection of the Tripetty pagoda and the pilgrims; but they hold no Sunnud.

The Vencatagherry Cotta* and Cuddapanuttum talooks are under one Tahsildar, but the accounts are kept separately, as the latter only forms part of the "Carnatic" revenue, of which the Nabob has one-fifth by treaty.

The two great Zemindaries of Calastray and Cavetnuggur, (the latter formerly known as Bom Rauze's country), pay a pēsheush of 1,90,393 and 1,87,663 Rs. respectively. With Vencatagherry and the smaller Zemindary of Sydapoor, they constituted the sole charge of a separate officer under the denomination of Western Pēsheush. But this office was abolished about the year 1808; the last named two Zemindaries being annexed to Nellore, and the first two to North Arcot. Sydapoor has since lapsed to Government. The Sunnuds of the three "Western Zemindaries" differ slightly from those of the Zemindars generally, (see Pro. Bd. of Revenue, 8th July 1816,) Section V. Reg. XXV. of 1802, not being inserted.

The Pollam of Congoondy was at first under Col. Read, having been ceded by Tippoo with the Baramahal in 1792, (vide Col. Read's Report of 4th April 1800). After its survey in 1805, it was intended to settle it on Zemindary tenure, but disputes as to its value and the proper amount of pēsheush caused the matter to be postponed. It was only in 1849, that the order to grant a Sunnud was given, and the pēsheush fixed at 23,733 Rs.

* This is distinct from the Vencatagherry Zemindary transferred to Nellore, and from the Pollam known as *Beoga* Vencatagherry.

The Jaghire of Arnee is hereditary in the family of a Mahratta Brahmin, held under a Sunnud of Lord Hobart, dated 10th May 1796, on a péshcush of 10,000 Rs.

The Jaghires of Avalconda and Daisoor were, on our assuming the Carnatic, confirmed "for life." The former was in the talooks of Trivullum, Satghur, Vellore and Poloor, and paid a péshcush of 6,108 Rs. The latter was in the Wandiwash talook and paid a péshcush of 169 Rs.; its Beriz is about 4,000 Rs. They have both lapsed to Government; Avalconda in 1847, Daisoor many years ago. The first grant for Avalconda is dated 1705, being a Sunnud of Aurungzebe's. This was confirmed by successive Nabobs of the Carnatic—the last being a Sunnud of Wallajah (Mahomed Ali) in 1792.

A few particulars as to the fall of the "Chittoor Pollams" may not be out of place. The information is derived chiefly from Mr. Stratton's Report of 15th Nov. 1802, and Proceedings of the Board of Revenue, 16th Nov. 1815.

The Chittoor Poligars claim a descent from certain officers of the ancient Hindoo government of Vijayanuggur, who after their overthrow in 1564 by the Deccanee kings, withdrew their seat of government to Permaconda and thence to Chandragherry, now in the North Arcot district. Here certain officers obtained rent-free lands in the country north of the Palār, held on tenure of Military or Police service; they became in fact similar to the Poligars of the south, and exacted Cavelly fees in addition to the emoluments from their land. Naturally of warlike and aspiring habits, these ambitious chieftains seized with avidity the many favorable opportunities for increasing their power and influence, which arose out of the imbecility of a declining Government, and the convulsed state of public affairs, during the struggles which occurred between the last race of Hindoo princes, and the Mahomedan invaders of the Peninsula. And gradually usurping the rights of the Government they were bound to support, they at length threw off all disguise, and openly asserted their independence.

It was not until the Mussulman Government had begun to assume a settled form that they ventured to require these chieftains to acknowledge their authority; nor was it until after a long and desultory warfare with various success on both sides, that the Poligars were at last awed into a doubtful obedience by the infliction of a cruel and ignominious death on two of the chiefs of their tribes. Reduced

for the first time by this means during the government of Tahir Mahomed Khan,* they consented to the payment of an annual tribute to the amount of 40,000 Pulliput pagodas, which was reduced during the administration of the next Nawaub Dost Ali Khan to 19,085 Pulliput pagodas. But availing themselves of the uncertain, confused, and divided authority which prevailed in the Carnatic during the wars in the Peninsula to establish the succession to the Musnud of the Carnatic, they afterwards discontinued payment; and it was not until the Nawaub Wallajah (Mahomed Ali) was firmly seated in the Musnud, that he succeeded in collecting this tribute, through his younger brother, Abdul Wahab Khan, to whom it was granted as a part of his Jaghire.

On the cession of the Carnatic (July 1801) and the assumption of the family Jaghires, the collection of this peshcush devolved on the British Government. It was raised by Mr. Stratton, the Collector, first To Govt., 19th Sept. 1803. appointed to this charge, from Rs. 16,828-14-30 to Rs. 35,775, but in the year 1802 the Poligars began to fall

heavily in arrear, and some of them evinced a conduct so extremely insubordinate and contumacious, as to render necessary the contemplation of compulsory measures towards them. A force sufficient for this purpose could not be spared by the Government, until the month of July 1804; when a body of troops was assembled in the Pollams, and the Collector was vested with a discretionary power to take temporary possession of these lands to such extent as circumstances might render necessary, at the same time allowing the Poligars such an allowance as might be requisite for their maintenance.

The Collector's endeavours to bring the Poligars to a proper sense of their duty having entirely failed, recourse was had to the Military force that had been assembled, upon which several of the Poligars broke out into open rebellion. A second attempt at pacific measures was made by the appointment of a *Special Commission* to settle the affairs of the Pollams; but this having likewise proved fruitless, active operations were again commenced, and towards the beginning of 1805, they terminated in the entire suppression of the rebellion. Three of the Pol-

From Mr Cockburn, 28th July 1804.

From do. 13th Sept. 1804.

From Govt., 22d Sept. 1804.

From Govt., 16th March 1805.

* This person was the Foyjedar or Provincial Commander at Chittoor under Saadut Ooda Khan, the first Nawaub of the Carnatic.

lams named *Moogral*, *Poloor*, and *Pacaula*, were declared by the Government to be forfeited; one only, viz., that of *Goodiapaaty*, on account of the faithful conduct of the Poligar, remained, as heretofore, in the possession of its proprietor; the remaining five named *Bungar-polliam*, also called Vencatagherry, (péshcush 12,003 Rs.), *Narguntee*, (péshcush 6,596 Rs.), *Poolcherla*, (péshcush 5,569 Rs.), *Culloor*, (péshcush 4,138 Rs.), and *Toombah*, (péshcush 1,776 Rs.), which had been temporarily assumed during the disturbances, were directed to be surveyed; and, till eventually restored to the Poligars about 1826, an allowance of 18 per cent. on the Beriz of their respective Polliums in Fusly 1210, (A. D. 1800), was made to each of them.

Rivers. The chief river in the North Arcot district is the

Palār, which rises in Mysore and flows eastward past Vellore, between old Arcot and Raneepett, and on by Wallajahbad in Chingleput, to the sea at Sadras. It is about 1,000 yards wide at Arcot, and during the monsoon is often impassable for days.

Other smaller rivers are the Poiney which passes near Chittoor and joins the Palār, the Soornamoorky, and the Cheyaur.

The Cheyaur is a small river forming in some places the boundary with South Arcot. It rises in the Salem hills. An annicut has lately been constructed across it, to irrigate a portion of the southern talooks of the North Arcot district.

A bridge over the Poiney at Trivellum, a few miles from Arcot, on the road to Chittoor is now building, in connection with the railway.

There are about 40,000 tanks in the district (great and small). The chief is that of Cauverypauk, 10 miles east of Arcot, the bund of which is four miles long, and which irrigates a great extent of land.

Roads. The cross roads in the district are bad, but the trunk

road to Bangalore, from Madras, kept in repair under the superintendence of an Engineer officer, is excellent. It passes through Arcot and Vellore, and leaves the district at Vaniumbaudy. A branch breaks off at Arcot to Chittoor and Pulmanair, and by that route also to Bangalore.

The aspect of the country in the eastern and southern parts, is flat and uninteresting; but its western parts where it runs along the foot of the eastern ghauts, as well as all the country northwards from Trivellum to Triputty and the Curcumbaudy Pass, are mountainous, with an agreeable diversity of scenery. The elevated platform, (part of the Table land of Mysore), where Pulmanair is situated, is com-

paratively cool, being 2,000 feet above the level of the sea, the thermometer in the hottest weather being 88° at maximum, and 70° at minimum. The European officials have built several comfortable bungalows at this place, whither they retire for such short periods as their duties will allow.

The hills in this district are composed principally of granite and sienite, and therefore boast of very little vegetation. Patches of stunted jungle here and there diversify their rugged and barren aspect; their vegetable poverty is however compensated by their mineral wealth. Ores of copper are found amongst the hills in Calastry, and iron ore is abundant. The narrow valleys between the hills are also extremely fertile; having a rich soil, and abounding in water in the driest season.

Produce and
Manufactures.

Grain of every kind is grown in great abundance throughout the Northern Division of Arcot; and a large breadth of sugar-cane, and indigo. A part of the latter is sent to the Madras market, or exported to the eastward, the residue being appropriated to the manufacture of common piece goods for home consumption. In addition to cotton cloths, oil is prepared in considerable quantities, for home and foreign use.

Arcot.

The early history of the town of *Arcot* is noticed in one of the Mackenzie MS., an abstract of which is thus given in the *Madras Literary Journal* of January 1838. The waste country wherein the six noted Rishis, (Ascetics) dwelt, was termed Shad-arayana, or in Tamil Aru-cādu, "six wildernesses," whence came the word, popularly written and pronounced, ARCOT.

When Kulottunga Chola and his illegitimate son Adondai* had conquered the foresters (Coorumbers) of the country;† they saw that Shad-arayana had been the abode of sacred Ascetics, and hence they built many fanes, with the usual accompaniments, at Canchi-puram (Conjeveram) and other places. Subsequently, the edifices built by them went to ruin, and the country became a wilderness, as it had

* The conqueror of Tondamundalum, about the year 1100 A. D.

† The Coorumbers were a north-country tribe, who established themselves in the south during the early period, but were driven out by the Adondai referred to in the foot note

been before. Thus it remained for some time, till Nala Bommanayadu and Timma-nayadu being on a hunting excursion from Pennaconda, hearing there was a multitude of beasts in the forest came thither. They saw an old hare chase a fierce tiger and seize it by the throat, at which they were surprised; they considered this to be an auspicious place, and having caused it to be colonized, they cut down the forest Aru-cādu, and built there a stone fort, with treasure discovered by Anjanam, (a kind of magic,) and ruling there, the power descended to several generations. At length Zulfeccar Khan, Aurungzebe's General, with a Mahomedan force came to the country, and after fighting with the Rajah of Gingee for nine years, he took the hill fort of Gingee, A. D. 1698, and placed Daood Khan, his Lieutenant, in the country as his Soubedar. Gingee and other places were included in the district of Arcot, and the Soubah of Arcot thenceforward became famous. Daood Khan after setting all things in order, went to the north to join Aurungzebe, [not later than A. D. 1700.] Zulfeccar Khan colonized the country with Mahomedans and greatly improved it. He was superior to the former Carnatic Rajah, and he made many benefactions to Hindoo fanes. From the constant increase of inhabitants the town of Arcot became very large. During this Mahomedan rule, the Hindoos were not allowed to build large houses, or to travel in any conveyance.

The Mahomedan Governors of the Carnatic seem, however, to have resided generally at Gingee till about 1712, when Saadut Oolla Khan, generally known as the first person who assumed the title of "Nawab of the Carnatic," removed the seat of his government to Arcot. And here his descendants held their Court; until during the wars at the end of the 18th century, Mahomed Ali preferred remaining at Madras. The Arcot here spoken of is now called "Old Arcot" by Europeans, to distinguish it from Arcot cantonment; which though taking its name from the city, is on the opposite side of the Palār, viz., on the north side. Among the Natives, however, the name Arcot is still wholly confined to the ancient city; they never apply the term to the cantonment, which they call Ranipett only.

Arcot occupies a distinguished place in British Indian history, on account of the gallantry and skill which attended its defence by Lord, then Captain, Clive in 1751. The object of Clive's attack upon the fortified capital of the Carnatic, was to divert the attention of Chunda-Sahib and his French auxiliaries from the siege of Trichinopoly.

The garrison surrendered to the English force of 500 men in a panic. Chunda Sahib immediately despatched a large force of 10,000 men, under his son Rajah Sahib, to lay siege to Arcot.

Macaulay thus describes the operations :—

“Rajah Sahib proceeded to invest the fort which seemed quite incapable of sustaining a siege. The walls were ruinous, the ditches dry, the ramparts too narrow to admit the guns, and the battlements too low to protect the soldiers. The little garrison had been greatly reduced by casualties. It now consisted of 120 Europeans and 200 sepoys. Only four officers were left, the stock of provisions was scanty, and the commander who had to conduct the defence under circumstances so discouraging, was a young man of five-and-twenty, who had been bred a book-keeper. During fifty days the siege went on. During this period the young Captain maintained the defence with a firmness, vigilance and ability, which would have done honor to the oldest Marshal in Europe.

“The breach however increased day by day. The garrison began to feel the pressure of hunger. Under such circumstances any troops so scantily provided with officers, might have been expected to show signs of insubordination; and the danger was peculiarly great in a force composed of men differing widely from each other in extraction, colour, language, manners, and religion. But the devotion of the little band to its chief surpassed anything that is related of the Tenth Legion of Cæsar, or of the Old Guard of Napoleon.

“The sepoys came to Clive, not to complain of their scanty fare, but to propose that all the grain should be given to the Europeans, who required more nourishment than the Natives of Asia. The thin gruel, they said, which was strained away from the rice, would suffice for themselves. History contains no more touching instance of military fidelity, or of the influence of a commanding mind.

“An attempt made by the Government of Madras to relieve the place had failed. But there was hope from another quarter. A body of six thousand Mahrattas, half soldiers, half robbers, under the command of a chief named Morari Row, had been hired to assist Mahommed Ali; but thinking the French power irresistible, and the triumph of Chunda Sahib certain, they had hitherto remained inactive on the frontiers of the Carnatic. The fame of the defence of Arcot roused them from their torpor; Morari Row declared that he had never before

believed that Englishmen could fight, but that he would willingly help them since he saw that they had spirit to help themselves. Rajah Sahib learned that the Mahrattas were in motion : it was necessary for him to be expeditious. He first tried negotiation—he offered large bribes to Clive, which were rejected with scorn—he vowed that, if his proposals were not accepted, he would instantly storm the fort, and put every man in it to the sword. Clive told him in reply, with characteristic haughtiness, that his father was an usurper, that his army was a rabble, and that he would do well to think twice before he sent such poltroons into a breach defended by English soldiers. Rajah Sahib determined to storm the fort. The day was well suited to a bold military enterprise. It was the great Mahommedan festival—the Mohorum—which is sacred to the memory of Hosein, the son of Ali.

“ Clive had received secret intelligence of the design, had made his arrangements, and exhausted by fatigue, had thrown himself on his bed. He was awakened by the alarm, and was instantly at his post. The enemy advanced driving before them elephants whose foreheads were armed with iron plates. It was expected that the gates would yield to the shock of these living battering-rams. But the huge beasts no sooner felt the English musket balls than they turned round, and rushed furiously away, trampling on the multitude which had urged them forward. A raft was launched on the water which filled one part of the ditch. Clive perceiving that his gunners at that post did not understand their business, took the management of a piece of artillery himself, and cleared the raft in a few minutes. Where the moat was dry, the assailants mounted with great boldness ; but they were received with a fire so heavy and so well directed, that it soon quelled the courage even of fanaticism and of intoxication. The rear ranks of the English kept the front ranks supplied with a constant succession of loaded muskets, and every shot told on the living mass below. After three desperate onsets, the besiegers retired behind the ditch.

“ The struggle lasted about an hour. Four hundred of the assailants fell. The garrison lost only five or six men.

“ The besieged passed an anxious night, looking for a renewal of the attack. But when day broke, the enemy were no more to be seen. They had retired, leaving to the English several guns, and a large quantity of ammunition.

“ The news was received at Fort St. George with transports of joy

and pride. Clive was justly regarded as a man equal to any command. Two hundred English soldiers and seven hundred sepoys were sent to him, and with this force he instantly commenced operations. He took the fort of Timery, effected a junction with a division of Morari Row's army, and hastened, by forced marches, to attack Rajah Sahib, who was at the head of about five thousand men, of whom three hundred were French. The action was sharp, but Clive gained a complete victory. The military chest of Rajah Sahib fell into the hands of the conquerors. Six hundred sepoys, who had served in the enemy's army, came over to Clive's quarters, and were taken into the British service. Conjeeveram surrendered without a blow. The governor of Arnee deserted Chunda Sahib, and recognised the title of Mahommed Ali:"

Since the date of these transactions, Arcot has very much declined in population and wealth. The removal of the Nawaub and his Court to Madras destroyed its importance as a seat of Government; and after the cession of the Government of the Carnatic to the English, the number of wealthy Mussulman officials resident there was still further reduced. The ancient walls of the city still remain; but a large part of what was once covered with streets and houses, is now bare; and almost all the old Mussulman families of consideration have emigrated to Madras or to Hyderabad. Still from its position on the banks of the Palär, the centre of a tract of fertile and well watered country, it must continue to be a place of some considerable trade. Some manufactures are carried on at Arcot, particularly of chintz and of gold lace and kincob; but the latter business has much fallen off of late years. The wall of the old fort which was within the Pettah is very much gone to ruin. The city contains some Mussulman tombs of very superior design and workmanship. The Sub-Collector of the North Arcot district resides at Arcot.

Ranipett,

Or the cantonment of Arcot, is 70 miles west of Madras. It is situated on the western trunk road from Madras to Bangalore; the electric telegraph between those places also passes through it, but at present it has no "station." It stands upon elevated ground sloping towards the left bank of the Palär river, which flows at the distance of 900 yards in its front. The country around the cantonment is open, but irregular; and with the exception of two or three rugged hills, of no great altitude, is generally level with slight un-

dulations. Half a mile to the south-west is an orchard one mile long and four hundred yards wide, thickly planted with mango, date, tamarind, guava, and various other trees. It is called the "Nine lac" garden from the number of the trees, (9,00,000) which it is popularly supposed to contain. It is the private property of the Nawaub of the Carnatic; and a very costly establishment is kept up for its maintenance.

Arcot cantonment is capable of accommodating three regiments of cavalry, one of Europeans, and two of Natives. The lines for the horses are placed parallel to each other, and considerably in advance of their centre is an extensive barrack for Europeans constructed of brick and chunam, with a tiled pent roof: the floors are laid with brick, and the whole surrounded by a wall. In front of the lines of each regiment is a place of arms, a guard room, and a range of stables for sick horses.

In the rear, at a distance of 400 yards, are three hospitals, advantageously situated, well ventilated, and built of the best materials; and behind them are the granaries, solitary cells, and a lock hospital. In the rear of the centre lines stands the neat little Church of the station. The officers' quarters are in the rear and the front of the lines, the former being healthily placed upon elevated ground, the latter occupying a lower and somewhat confined site.

Arcot is generally considered a salubrious situation for troops. The febrile diseases which most commonly afflict them are not of a malarious origin, but may be ascribed to the vicissitudes of climate, the alternations from heat to cold being somewhat sudden.

Of late years there has never been more than a single regiment of Native cavalry at the station; and lately even this has been withdrawn, and the cantonment is without troops except that it is occupied by the head quarters of a Battalion of Native Veterans.

Between the cantonment and the river an extensive town has grown up within the last half century, or since the cantonment was established. The population is composed in great part of pensioned Native officers and sepoys of cavalry, and the numerous classes who have congregated to find a living in ministering to their wants. This town is called Ranipett; and it is this which has given its name to the cantonment, among the Native community in particular, though that was originally established as the cantonment of Arcot.

Tripetty.

A town in North Arcot, 80 miles from Madras, and celebrated for its sacred name among the Hindoos. It is in a valley about the centre of a long range of hills, running almost north and south. The town is about eight or nine miles distant from the pagoda, but not more than one mile from the foot of the hills. Looking from the town, there appears to the eye only one accessible path up the hill, and at different distances, the last at the top of the hill, are three *Gopurms* or portals, and the pilgrims all pass through these on their way up. On the other side of the hill there are other ascents. No Christian has ever seen the pagoda, neither has the Mussulman attempted to place his foot on the hills, the mere sight of which so gratifies the Hindoos, that leagues off upon first catching a glimpse of the sacred rocks, they fall prostrate, calling on the idol's name. None but a pure Hindoo is allowed to step beyond the first portal. The pagoda, and the connected buildings, are known however to be constructed with great solidity and in a costly style, the greater part being of cut granite. The following is an account of the temple written some years ago, whilst it was under the control of the British Government.

“ The idol is worshipped by votaries, who pour in from all parts of India, under a thousand names ; but the three principal ones are Venkataramana Swamee, or the repeller of evil and insurer of good, Srinawasa Swamee, implying the habitation of Sri, the Indian Ceres ; Seshachellawansah, implying the habitation of Sesha, Seshachella being the name of the hill, the etymology of which is *Sesha*, the king of serpents, and *achella*, a mountain, Vishnu having, in one of his incarnations, assumed the appearance of a serpent, and transformed himself into the Tripetty hill.

The idol in this temple is an erect stone figure, about seven feet in height, with four arms, and personifies Vishnu in two of his hands ; the right contains the chukra, or club of war, the left, the chank, or holy shell. The other right hand points to the earth, alluding to the sacred origin of the hill, and the other left holds the lotus.

The early history of the pagoda is involved in the obscurity of Indian mythology and fable. Its antiquity is undoubted, and the Brahmins asserted that it was erected at the commencement of the Caliyug, of which it is computed 4930 years have expired. This period it is said, is to last only 5,000 years, when the worship of Vishnu on earth

is to cease, and the Hindoos are taught to expect his last and most glorious incarnation, terminating the days of "contention and business." This is generally understood from the *Bharee Shistarem Poorana*. The founder of the temple was Tondiman Chukrawurtee, or Rajah, and there is a village Tondimaund, only twelve miles from Tripetty, but containing no remnants of grandeur of any kind. The district called Tondimanād forms now a portion of the Rajah of Calastry's territory, but it may have been that a very large portion of country called Tonda-mundalum by the Natives, was the original kingdom of the dynasty if it ever existed. It is true, that long before the English came to this land, Tonda-mundalum existed only in imagination, but notwithstanding Hindoo, Mussulman, and English changes of names, divisions and districts, a large tract of country, capable of forming a territory to support a very powerful prince, is known to educated Natives by that name.

The temple is remarkable for the oblations which are offered to its god by Vishnu's votaries from all parts of the Indian world. Princes send their vakeels or ambassadors to present their offerings to the shrine; whilst the poor peasant, who may have little else to offer, wraps up some trifling article in a piece of wax cloth; a handful of rice, stained with munjall, makes it look a larger packet. The cause of these offerings is as follows: the idol smitten with love for the blooming Tudmavuttee, daughter of Akaswa, Rajah of Narrainvanum, in the Bom Rauze Zemindary, determined to espouse her, but wanting funds for the matrimonial expenses, he applied to Cuvera, the Indian Plutus, and by his aid obtained what he required. The god directed that the loan should be repaid to the sovereigns of the country lying between the Palār and the Soornamooky rivers; and in pursuance of this appointment the whole of the offerings made at the shrine have, from the earliest times, been made over to the local ruler. The great reason for making these gifts is the festival on the anniversary of the marriage above mentioned, which occupies nine days. That is the time when Hindoos are most anxious to visit the temple.

The Brahmins maintain that the Hindoo princes allowed the revenues from this source to be entirely expended on the spot in religious ceremonies, and that the Mussulmans first appropriated the produce to their own use. During the early wars betwixt the English and the French nations in India, this source of revenue was one of

the first fruits of British conquest. These offerings or *cannikay*, are of every conceivable diversity ; gold and silver lamps, coins of all sorts, bags of rupces, copper money, spices, assafœtida, the hair cut from the head, frequently vowed from infancy, and yielded by some beautiful maiden in compliance with her parent's oath.

A man who is lame presents a silver leg ; if blind, a gold or silver eye ; in fact, there are innumerable ways in which Hindoo superstition develops itself upon this occasion. The jewels which a woman has worn from infancy, are voluntarily offered to the idol ; she appears with a shabby cloth before the stone god, and presents a splendid one which has never been worn ; she tears the bangles from her infant's little legs, and fondly hopes that the god whom she sees in the clouds, and hears in the wind, will shower down his blessings on her and her's. She has haply travelled hundreds of miles, and has accomplished her object ; perhaps, before this journey, which to her might be one of terror, she never left her village or the bosom of her family.

The birth of a son, reconciliation with enemies, success against the foe, the safe termination of a journey, the marriage of a son or daughter, prosperity in trade, enjoyment of health, or the reverse of these, are among the reasons which lead in the direction of Tripetty, the wise as well as ignorant heathens.

The offerings are not always presented by the donor in person ; they may be sent by relations, friends, or vakeels, and they are frequently sent by Gossains. A Gossain is a servant of the temple : there are a considerable number of them. A few months before the Brumhautooween, they set out in different directions, and on reaching the country where they intend to commence their operations, they unfurl the sacred flag of the god with which each is entrusted. Round this idolatrous banner the Hindoos gather, and either trust their offerings to its bearer, or carry the *cannikay* themselves to the foot of the idol. A sufficient number of persons being congregated, the blind leader of the blind strikes the standard, and returns whither he came, in time for the nuptial anniversary.

The Gossains seldom are detected in stealing the *cannikay* in their care, but doubtless they derive some emolument from the pilgrims, as ~~their presence~~ ^{their presence} alone suffices to secure them from trouble, taxation, and other annoyances.

As they journey they chant out, every five or six minutes, the name and attributes of the god:—"Goō, Goō, Gōveenda Raūz-Raūzōō;" the whole party, men, women, and children, successively take up the word as rapidly as possible, and then simultaneously burst out with it.

The god compliments the worshippers at his altar with presents proportioned to the liberality of their oblations; if the devotee gives 100 Rupees, he receives a turban from 100 to 500, a flowered silk vestment; from this to 1,000, a shawl, &c. &c.

A second source of revenue is called *wurtuna*, or presents given to the idol for its own use; whether jewels, or horse cloths, &c.

The donor is made to pay the estimated value of the offering to Government before he is allowed to make the present to the idol; the article is then retained for the use of the temple. A third source of revenue is designated *arjeetum*, or receipts, and is of three classes, viz., *abbeeshékom*, or purifications, *naivaidium*, or offerings, *wahanum*, or processions.

The whole of the revenues of the temple, from whatever source derived, were formerly under the management of the Government. A regular establishment was entertained for the customary services, and the rice, oil, and other commodities were supplied; and the surplus was appropriated by the Government. This arrangement ceased in 1843, when the Government renounced all connection with the temple, and transferred the control of its affairs and the management of its revenues, to the chief of an establishment of Ascetics at Tripetty, who is generally regarded by the Hindoos as possessing great sanctity.

Attached to the temple are a granary and store house, under charge of the Jeeyengar and Ekanjee, or his deputy, who have various servants under them. The Jeeyengar regulates the disbursement upon the orders of the Parputteegar, or manager of the temple, the Parputteegar supplies daily rations of food to all the servants of the temple, attends to the due performance of their various duties, and has the general superintendence; he takes care that the gifts presented are duly disposed of, searches the guards (and other persons) over the places for receiving the offerings, and causes the offerings or *cannikay* to be duly deposited in the treasury.

Besides the sources of revenue above described, there are many villages and extensive lands enjoyed by the holders of the various great

offices of the temple, all of which are hereditary. These villages and lands, which are either entirely exempt from payment of revenue, or pay a small quit rent, have been held on the same tenure from very early times.

Chundragherry.

After the capture of the Hindoo capital of Warangul in 1323, and the subversion of the Bellal dynasty which had lasted 256 years, two officers of the Rajah of Warangul, established a new Government at Vijayanuggur, on the banks of the Toombudra—Anagoondy was a suburb on the opposite side of the river. The town was completed in 1343. After 13 of these Telugoo Rajahs or Rayceels had reigned, being all of the Siva sect, Narsinga Rajah of the Vishnu sect, founded a new dynasty A. D. 1490.

He seems to have been the first king of Vijayanuggur; who extended his Conquests into Drāvīda, and he erected the strong forts of Chundragherry and Vellore, but it was not till about A. D. 1510, or 1515, that Krishna Rayer finally reduced the whole of Drāvīda, including the Sera Chola, and Pondion kings, to real or nominal subjection.

In 1564, the four confederate Mahomedans kings of the Deccan, defeated the Hindoo army at Tellicotta, between the Kistna and Toombudra, in a great battle, in which Ram Raji, the 7th prince of the house of Narsinger, and almost all his principal officers fell. Vijayanuggur was sacked and depopulated, and the brother of the late Rajah ceded to the conquerors, the Doab, between the Kistna and Toombudra, Mudkul Rachore, Adoni, Coilgoontla, Ongole, and Guntoor. South of the Toombudra the Mahomedans seem to have kept no possession but Adoni, and perhaps Nundial.

The successor of Ram Raja deserted the now depopulated Vijayanuggur, and established his reduced Government at Pennaconda, (85 miles S. W. of Bellary, and now in Mysore), whence his successor Timma Rajah removed to Chundragherry, in 1570. This town and fort are situated about eleven miles W. S. W. of the famous Pagoda of Tripetty.

About 1597, the last descendant of the ancient Rayceels who manifested any symptoms of power, ruled with some degree of magnificence at Chundragherry and Vellore, whence he held a nominal

sway over the Naiks of Gingee, (Kistnapa) Tanjore, Madura, Chennapatam, (Jug Deo Royer), Seringapatam, (Trimul Raj), and Pennaconda. It was in this reign that the Dutch, who had established themselves at Pulicat, persuaded the Rayer not to grant a settlement to the English.

In 1599, two Portuguese Jesuits from St. Thomé visited Chundragherry, and were received by the Gentoo king.

About 1644, during the invasion of the Carnatic by the Beejapore forces, under Rendoola Khan and Shahjee, Gingee and then Chundragherry, were reduced. The Rajah Stree Runga Rayel* after secreting himself for a long time in the Northern Carnatic, at last, in 1646, escaped to Bednore, where he was sheltered by the Rajah, formerly one of his own dependants. This is the last that is known of the old Vijayanuggur dynasty, though a branch of the family residing at Chingleput, continued for a time to assume a kind of title.

Chundragherry is the Cushbah of the talook of that name in the North Arcot district.

Vellore, or Raee Vellore.

84 Miles from Madras.

A town and fortress in the Central Carnatic province, to which a district was formerly attached, situated in Latitude $12^{\circ} 57' N.$, Longitude $79^{\circ} 11' E.$

The Mahommedan states of Golconda and Beejapore possessed themselves of Vellore and Chundragherry, in A. D. 1646. In 1677 Sevajee made an unexpected irruption into the Carnatic, and captured this place, and Ginjee. During the war of 1782, it was relieved by Sir Eyre Coote in the face of Hyder's whole army. After the conquest of Seringapatam, and the destruction of the short lived Mahommedan dynasty, Tippoo's family, consisting of twelve sons, and eight daughters, were for security removed to Vellore. On the 10th of July 1806, a most atrocious massacre of officers and other Europeans was perpetrated by the Native troops belonging to the garrison, in which revolt the family of Tippoo took an open and active share. The insurgents were subdued, and mostly put to the sword, by Colonel Gillespie and a party of the nineteenth dragoons, and to prevent the recurrence of a similar calamity, the instigators were removed to Bengal.

* It was this Rayer who in 1640 granted the settlement of Madras to the English.

It is watered by the Palār river which runs through its whole extent, (passing the fort at a distance of half a mile,) and by springs which are numerous at the bottom of the contiguous hills.

The road from Vellore to the ghauts is very beautiful, and being well watered with rivulets and springs exhibit an agreeable verdure.

The soil in the neighbourhood and throughout the valley is a rich dark brown mould, which produces a constant succession of luxuriant crops.

Rice and tobacco appear to form a large proportion of the cultivation in this valley; there is besides much natural vegetation, and numbers of trees both in and around the station, but particularly near the officers' houses where they are too numerous, considering how little those localities are raised above the adjoining rice fields. Though these plantations must impede the free circulation of air, the access of which from the eastward is obstructed to a considerable degree by the high range of hills, their presence does not appear to be productive of any pernicious effect, for it is generally believed that although this station is a few degrees hotter than St. Thomas's Mount, Poonamallee, or Wallajahbad, it is surpassed in salubrity by none in the Southern division. As far as regards the Native constitution this is fully substantiated by the fact, that regiments arriving from unhealthy malarious stations in a weakly state have improved in health in a very surprising manner at this place.

The fort is situated three quarters of a mile from the foot of a high range of rocky hills; which are naked and rough, and form the eastern boundary of an extensive plain called the Ambore Valley. The skirts of these hills are planted, but not thickly with palm and date trees. The fort is capacious, and besides the hospitals, barracks, magazine, and quarters for staff officers, it contains several buildings. The ramparts are high and broad, and strongly built, and are provided with bastions and towers at short distances from each other; the whole is surrounded by a ditch of great breadth, and considerable depth hitherto but imperfectly supplied with water; extensive improvements are in progress which will command a regular and plentiful supply.

A *fausse-braye* lines the walls except at one entrance, where there was a causeway according to the Hindoostani system; and in addition to the usual means of defence the ditch contained alligators of a very large size, of which a few still remain. The fortress is so completely commanded by the hills, that a six pounder can throw a shot over it,

but the conquest of Mysore has rendered it now comparatively of little importance.

The places of arms are situated about a quarter of a mile to the south of the fort, and close to them are the lines of the sepoy. The site of the fort and pettah of Vellore is sufficiently raised above the level of the flat ground in the vicinity to prevent the lodgment of water.

The hospital is situated in the fort, and is constructed in the form of an oblong quadrangle, inclosing an area of eighty-one yards, by fifteen. It is roofed, and tiled, well ventilated and generally dry, the roof is rather low, and there is no verandah. This structure is divided into six large wards, and four smaller rooms, and these latter serve for dispensaries, and surgeries, and four of the former are set apart, one for the sick of each of the Native regiments, and one for the details of the station. They afford accommodation for upwards of fifty patients each.

The pettah of Vellore lies to the east of the fort close under the hills. It is a large and populous town, with an exceedingly busy bazaar, containing many good houses, interspersed with a large proportion of Mussulman tombs, but without any public buildings of note.

The white washed mosque of Chundah Sahib is the most remarkable edifice; to the south of the town are the houses of the officers, placed in a double row, with the military road to Arnee running between them.

The population of the pettah (exclusive of regiment and military camp followers) as ascertained in 1851, was 51,408.

The great pagoda within the fort forms one side of the square, and is used as an arsenal. From the attributes of the statues, sculptured of blue stone, which still ornament its front, and the frequent images of the bull Nandi, recumbent on the ledges of the walls, it is to be inferred that Shiva was the deity worshipped.

Arnee.

A town in North Arcot, situated in Latitude $12^{\circ} 40'$, Longitude $79^{\circ} 13'$, about 80 miles south-west from Madras, and about 18 miles south of Arcot. It stands at an elevation of about 400 feet above the level of the sea, rising somewhat higher than the contiguous plains. Originally a strong fortress, the walls now merely enclose the barracks, officers' quarters, hospitals, public buildings, &c., proper to a station for European troops.

Arnee was formerly the station of a European regiment, but for

many years past it has never been occupied except occasionally, and for the last ten years there have been no troops there, except a detachment of Invalid sepoys.

The soil of Arnee and the surrounding country is dry, and rapidly absorbs the rain. The place derives its chief supply of water from a small river, partly fed by springs which run within a quarter of a mile from the fort. Hills rise within six miles of Arnee, and consisting chiefly of granite and sienite, boast but little natural vegetation. Small patches of jungle decorate them at irregular intervals. In the plains the soil is chiefly composed of disintegrated rock of primitive formation mixed with sand, and in low situations it becomes loamy or clayey. In many places it is much impregnated with saline matter, which in the dry season covers the surface with a white efflorescence.

Situated on an open plain Arnee is very hot. There is no malaria from the neighbouring hills, but cholera has occasionally prevailed at the station with very great virulence.

The famous Arnee muslins are not manufactured here, but at a place of the same name in the Chingleput district.

Nuggery.

A small town in the north division of Arcot in the Carnatic, 56 miles 6 furlongs travelling distance N. W. from Madras, Lat. $13^{\circ} 19'$ N., Long. $79^{\circ} 39'$ E. The village is situated at the base of the well known hill called Nuggery Nose, which forms the S. E. termination of a long mountainous range that extends into the Balaghat Ceded Districts, and the Nizam's Dominions, falling abruptly to the plain about 26 miles from the coast. They are composed of sandstone and quartz rock resting on granite and gneiss. Their summits generally form flat table lands of varied extent elevated on mural precipices of sandstone, that impart a bold crested appearance to this outline. The general height of the chain is from 1,000 to 3,000 feet above the level of the sea. The granite and gneiss are seen in a few low hills at the base, and in the plain. Greenstone occurs both in situ, in dykes, and in globular fragments on the surface of the plain. The summit of Nuggery Peak, is in Lat. $13^{\circ} 22' 53''$ N., Long. $79^{\circ} 38' 13''$ E.

Pullicondah.

A village in the northern division of Arcot, on the road from Madras by Vellore to Bangalore, distant from the former place 97 miles,

and from the latter 115 miles. It is situated at the base of a lofty hill of sienite, near the right bank of the Palār. It has a handsome pagoda, in the front of which stands a pagoda supported by four lofty pillars. Pullicondah is the Cusbah or chief town of the Vellore talook.

Chittoor.

98 Miles from Madras.

A town situated in the western part of the district of North Arcot. It is the head-quarters of the Revenue and Judicial authorities. The surrounding country is hilly and nearly mountainous, forming a valley of irregular shape, 1,100 feet above the level of the sea.

The hills are rugged and barren, chiefly composed of a coarse granite, gneiss, and grey wacke, all more or less in a state of decay, but the valleys at their base are very productive. A vein of iron ore intersects the hills, and at their foot is a belt of stunted trees and shrubs.

Through the centre of the valley runs the river Poiney, which joins the Palār near Arcot. During the monsoon it reaches a breadth of 400 yards, while in the hot months the bed is filled with a dry sand, with a small rivulet running through it. Several tanks are supplied by the river in the rains, and it is otherwise drawn off for purposes of irrigation.

The soil of the valley and the lower part of the hills is composed of the debris or detritus of the loftier parts interspersed with masses of rock. In some places it is of considerable depth; in others shallow, sandy, and gravelly, and mixed with argillaceous earth or blue clay; in others it contains much carbonate or sub-carbonate of iron. The whole of the lower grounds of the valley are under rice cultivation, and dry grains are grown near the hills.

The town and fort of Chittoor stand on the south side of the river. The rice fields reach close to the fort and town, and in addition to them there is much natural vegetation, such as trees and shrubs encircling the fort and the officers' residences. At a little distance from the town are the Jail, the Zillah Court, and Court of Appeal.

Chittoor, which is eighty miles from the sea in a direct line, is within the influence of the north-east monsoon, but the sea breeze does not reach it with any regularity. The climate is salubrious. The thermometer sometimes rises to 140° fahrenheit in the sun; but the annual range in the shade is from 56° to 100°. The greatest diur-

nal variation observed has been 20° and the average daily range from 8° to 10° , the mean of the annual heat being about 80° .

Pulmanair.

Situated at the beginning of the Mysore table land 2,000 feet above the level of the sea, in the district of Chittoor, and forming a pleasant place of resort for Europeans during the warm months of the year. The hills are 1,200 feet higher than the town of Chittoor, from which Pulmanair is distant 26 miles.

The mountains are sandy and gravelly, interspersed with loose craggy rocks. Abundance of water is found in tanks in Pulmanair. The jungle which passes north of Vellore approaches on the eastern side to within a short distance of the hills, and occupies a very irregular surface, varying in breadth from one to four miles. Much sugar is grown in the Pulmanair talook; and is transported to Madras for shipment to England.

Amboor.

115 Miles from Madras.

A town situated near the eastern hills of the Barramahal. It is neat and well built. A large quantity of castor oil is manufactured here. Ghee and tobacco are also staple articles of trade to a great extent. Upon the summit of a mountain at one side of the town there was formerly a strong fort. Amboor is a place of much business being inhabited by a class of active and enterprising Lubbay traders, who purchase the produce of the surrounding country both above and below the ghauts, and transport it to Madras. The town also contains indigo factories established by persons of the same class.

Sautghur.

113 Miles from Madras.

A village and garden belonging to the Nuwaub of the Carnatic, at the foot of the Peddanaigdroog Pass, leading up the Eastern ghauts to the table land of Mysore, in Lat. $12^{\circ} 57' N.$, Long. $78^{\circ} 48' E.$

The garden contains groves of fine orange trees, the fruit of which is celebrated over the whole southern part of India.

The scenery around is bold and picturesque, the prevailing rocks in the vicinity are of sienitic granite.

There is a handsome mosque here of modern date,

SOUTH ARCOT.

THIS Collectorate is bounded on the north by the districts of North Arcot and Chingleput, on the south by Trichinopoly and the Coleroon river, which divides it from Tanjore, on the east by the sea, and on the west by the Salem district; its extreme length from the lower Coleroon annicut to the most northern point of the Chaitpet talook is 90 miles, and its greatest breadth nearly 80 miles.

The following Table exhibits the population and revenue of each talook, and the whole revenue of the district. The 8th, 9th, 10th, and 11th talooks form the charge of the Sub-Collector.

Talooks.	Cushub or principal Station.	Number of Villages.	Population.	Extent of land cultivated.			Land Revenue	Number of Puttubs.	Extra sources of Revenue.
				Wet and Garden.	Dry	Total.			
1	2	3	4	5	6	7	8	9	10
				Cavvies	Cavvies	Cavvies	Rupees.		Rs
1 Tindevanum...	Tindevanum...	278	78,283	12,984	42,933	55,917	1,77,164	12,795	Salt 2,77,862
2 Trivady... ..	Trivady... ..	121	84,314	8,342	33,047	41,389	2,12,046	16,065	Sayer... .. 43,848
3 Villapoorum...	Villapoorum...	225	1,03,101	14,093	43,668	57,761	2,65,245	19,437	Abkarry... .. 81,300
4 Bowangherry.	Bowangherry.	156	68,075	12,600	28,887	41,487	1,93,267	14,627	Petty Licences 11,286
5 Munnargoody...	Munnargoody...	198	46,922	14,246	6,455	20,701	1,92,516	5,757	Moturpha 41,142
6 Chellumburum.	Chellumburum.	198	57,329	15,752	15,264	31,026	1,77,916	10,503	Sea Customs 31,070
7 Trinamallee .	Trinamallee .	460	81,249	7,242	37,002	44,244	1,29,990	9,177	Stamps... .. 20,026
8 Verdachellum...	Verdachellum...	302	1,01,467	5,816	58,987	64,803	2,54,188	23,348	Total.. . . . 5,06,534
9 Ellavansore...	Ellavansore...	217	69,807	10,906	25,675	36,581	1,78,654	14,426	POPULATION.
0 Tricullore... ..	Tricullore... ..	310	77,053	8,739	23,259	31,998	1,48,091	12,379	Hindoos. 9,66,998
1 Cullacorethy...	Cullacorethy...	239	82,950	9,638	32,544	42,182	1,89,912	18,134	Mahomedans } 39,007
2 Chaitpet	Chaitpet	418	84,818	11,762	26,715	38,477	1,65,288	11,416	and others not } 10,06,005
3 Cuddalore.. .	Munjacopur or New Town.	34	76,437	2,055	5,611	7,666	47,836	4,318	Hindoos... ..
Total.....		3,160	10,06,005	1,34,685	3,80,047	5,14,732	23,31,913	1,72,792	Mahomedans } 39,007
Permanently settled Estates...		17	.....	.....	.....	.....	8,637		and others not } 10,06,005
Shrotriam, &c . .		199	.....	.....	.....	.....			Hindoos... ..
		3,376		Total Land Revenue.			23,40,550		

SOUTH ARCOT, Fusly 1260, —Area = 7,600 Square Miles.

1 Cavvie = 1 322 Acres

South Arcot at the time of its cession contained 21 talooks, viz., all those contained in the Table above, except Nos. 7, 12, and 13, with the addition of Vudaoor, Tittoogoody, Teroovancellore, Anioor, Gingee, all now united with other talooks; and to the north, the talooks of Vellore, Arcot, Wandiwash, Trivatoor, and Poloor, with the Jaghire of Arnee, all of which now form a portion of the district of N. Arcot.

In 1804, the talook of Cuddalore which being an appendage of Fort St. David, had never been under the Nawaub's Government, was placed under the Collector's charge, as also Pondicherry, (which on the breaking out of the French war in 1803, had fallen into the hands of the English). In the same year (1804) the two southern talooks of Manargoody and Chellumbrum were transferred from Trichinopoly to S. Arcot.

In 1807, the talooks above noted as now belonging to N. Arcot, were transferred to that district, and in 1816 Pondicherry was restored to the French.

The Soubah of S. Arcot passed into the hands of the English Government, with the rest of the Carnatic by the treaty of July 1801. It had been for many years in the hands of the Nawaub's managers, and renters. The first manager was Anunta Doss, a former employé of Anwar-ood-deen. After about three years he was succeeded by Meer Assud Ali Khan (1758). At his death Mahomed Ali's son Omdut-ul-Omrah was put in charge, but only remained a few months, being re-called by his father, in consequence of the representations of Rayajee, the Dewan.

Rayajee was originally a Stulla Curnum in the Poonamallee Pergunnah; next a Goomasta under Mohun Sing, Bukshee at Arcot, on 15 Rupees a month. When Mahomed Ali came to Arcot in 1760, he took the Bukshee with him to Trichinopoly; whence he deputed him to enquire into the mismanagement of the revenues of Arcot, and Rayajee* accompanied him. In the course of a year he discovered that eight lacs of Chuckrums had been collected more than what had been brought to account.

After this, when Omdut-ul-Omrah was placed in charge, Rayajee was appointed Naib; and on the recall of the former was entrusted with the entire management in 1764. He began by measuring all the lands of each village, distinguishing arable from waste, and unproduc-

* Rayajee is often known in the old documents as "Rajah Beebur."

tive, Nunjah from Poonjah. He regulated the rates of Vaurum on the former, and of Teerwa on the latter : both these have been subsequently altered. He commenced by Amauny management of the whole district—*i. e.* division of produce. But this was not found to answer, and after 10 years, the Nawaub got Rayajee to farm the whole Soubah himself for $13\frac{1}{2}$ lacs of pagodas, (47,25,000 Rupees), for Fusly 1184 (1774). He subdivided it to five sub-renters ; who again made agreements for single villages, the ryots of each village being collectively answerable for the amount.

Till Hyder's invasion in 1780, about which time Rayajee died, this plan seems to have answered. This portion of the Carnatic was then completely laid waste, and there are no records to show how it was managed from that period.

After the peace in 1782, and during Lord Macartney's Government, the Nawaub who was unable or unwilling to pay what he had engaged for the expense of a protecting army, *assigned* the country to the British, who held it for four years ; the receipts during this time are not known.

In 1785 by order from the Court of Directors who disapproved of the assignment, the country was again given up to the Nawaub and placed under his second son Hoosein-ool-Moolk, who sub-rented it among several individuals. What revenue the Nawaub derived is not known.

In 1790, on the breaking out of hostilities with Tippoo, it was found necessary to make the Nawaub assign his country again, to meet the expenses of the war. The Arcot province was divided into Collectorships under Messrs. Kindersly, Landon, and Floyer. The records of that period have been destroyed, and indeed the whole time was one of such opposition from the Nawaub's people that little was collected by the Company's officers.

In Fusly 1202 (1792), after the treaty of Seringapatam, the Carnatic reverted to the Nawaub, and was managed by his relative Nizam-ood-Deen Ahmed Khan > he died in 1795, ten days after the Nawaub Mahomed Ali (generally called Wallajah), and was succeeded by Noor-ood-Deen Mahomed Khan. The latter died in A. D. 1796, and was succeeded by Hoosein-ool-Moolk (commonly known as Tippoo Padshah, brother of Omdut-ul-Omrah), but his Naib Moorteza Ali Khan or Monjan Jung was the real manager. On the 31st July 1801, the

Carnatic was formally ceded to the British Government by treaty. Captain Graham was put in charge, but remained only one year, and was succeeded by Mr. Garrow, who also only remained one year; Major Macleod then came who only remained one year, and after him Mr. Ravenshaw. The latter gentleman remained in the post of Collector of this district for a number of years. He greatly modified the revenue arrangements of his predecessors, which had differed but little from those of the Mussulman managers, and materially reduced the burdens on the land; abolishing the extra demands which had been added in the later times of the Nawaub, and forming a new assessment in money, based on the actual powers of the soil. His rates, though much below those of his predecessors, were still found too heavy, especially of late years when the money price of agricultural produce has so much declined; and a reversion and reduction are about to take place.

The climate of this collectorate though hot and dry inland, may be said to be favorable both to European and Native constitutions; cases of fever are not of common occurrence, and are of a mild form, the cholera occasionally makes its appearance, but its range is not commonly extensive, or its continuance long. Officers on sick leave often benefit by a residence at Cuddalore. Tricullore, Virdachellum and Cuddalore are esteemed by the Native community particular healthy localities.

The aspect of the country resembles that of other parts of the Coromandel Coast. It is low and sandy near the sea, and for the most part level as far as the western boundary. Towards the west are the wild ranges of the *Coorembu Gownden* hills, and those of *Jeddy Gownden* separating the Cullacoorchy talook from Salem; part in one district and part in the other; whilst on the N. W. the Trinomaly talook extends to the foot of the mountain range beyond *Chengama*, and which also separates South Arcot from Salem. These ranges are in some parts about 5,000 feet high. Parts of the southern hills are under a Poligar, and there are small cultivated villages on them, but the Chengama range is very sparingly inhabited by a race of half civilized Mullialies, who bring down for occasional barter or sale honey, bees' wax, bamboos, and other jungle products. There are also solitary hills, craggy and steep, scattered about the district, such as Trinomaly, Gingee, and Chaitpet.

In the western parts of the talook there are some dense tracts of

jungle, the abode of tigers, cheetahs, bears, and monkeys. Elephants also have been seen. In the year 1852 no less than 3,727 Rupees were paid by Government as rewards for killing wild beasts.

The soil near the coast is clayey, but generally speaking the land under cultivation is fertile, often yielding two crops of dry grain a year. The irrigation of the paddy land is good.

In former days when the Government were traders, there was a commercial resident at Cuddalore, and the Company's weavers were encouraged by many privileges. A valuable trade was carried on with the Straits and the West Coast of Sumatra in piece goods, the returns being made in gold dust and benjamin. The manufacture and exports of piece goods has been almost superseded by piece goods of European manufacture; there is however a small export of these as well as of dyed cloths, to Singapore, Malacca and Acheen, the return being in benjamin, betel-nut and spices. The sea ports are Cuddalore and Porto Novo; at the former place large vessels frequently touch to take in indigo, sugar, hides, ground-nut, (manilla-nut or kuddelay-vair), gingely oil, and sometimes rum, which has of late years been manufactured from the sugar of the date palm.

Considerable quantities of paddy are also grown for home consumption, and the cultivation of sugar-cane has lately been much attended to. Limes, plantains, jack, and pumplemoses are grown abundantly, and are often exported by dhonies to Madras.

At Cuddalore very good table cloths, towels, and napkins are made, which command a ready sale amongst Europeans.

In some parts of the district, the pottery is of a superior description. Salt for the Government monopoly is manufactured largely in this district. The salt at Mercanum (Lat. $11^{\circ} 12'$) is very superior. The average sales are about 1,250 garce at Mercanum; at Cuddalore 190; at Teagavully (14 miles south of Cuddalore) 215; at Killay near Porto Novo 160. Total 1,815.

The old roads in South Arcot are generally execrable.

Roads. The coast road from Madras which enters the district near Mercanum runs along the sea shore and is very sandy. The new trunk road passes inland via Tindevanum, Villapooram and Oolundoorpett towards Trichinopoly. A branch is being constructed from Punrooty (near Trivady) over the Vellar annicut, passing west of the Veeranum tank, and over the lower annicut to Combaconum. The cross roads are almost impassable during the monsoon.

Rivers & works
of Irrigation. The chief river is the Coleroon (see Trichinopoly,) which forms the southern boundary of the district. Whatever water passes over the annicut falls into the sea about five miles south of Porto Novo.

The *lower annicut* is a brickwork and masonry dam about six feet high thrown across the Coleroon (advantage being taken of a low island in the middle) where it is 3,710 feet from bank to bank.

A considerable body of water is thus accumulated and is directed off into side channels. The two northern channels are the Vuddavar, and North Rajah Voikaul. The *Vuddavar* is from 18 to 12 yards wide: after a course of 14 or 15 miles it falls into and supplies the Veeranum tank. It has several irrigating sluices en route. The *North Rajah Voikaul* irrigates by means of small channels a great part of the Manargoody, and nearly all the Chellumbrum talook. It has entirely superseded the old "Comaratchy Channel" which fed the Comaratchy tank. The tank is no longer required, the channel irrigation being complete. In 1852 a new head-sluice of cut stone was built to this channel close to the annicut, at a cost of 5,184 Rs.

On the south of the annicut a channel called the *South Rajah Voikaul* is taken off for the use of the Tanjore district. The annicut itself is on the north side in the Trichinopoly district, but as that district does not benefit by it and it is on the verge of South Arcot, it is supposed to belong to the latter.

The annicut itself cost 99,420 Rs.; the two northern channels 23,524 Rs.; the Tanjore channel 11,044 Rs. The works were executed in 1837-38, and considerable sums have since been laid out in repairs and improvements. They have added a lac of Rupees per annum to the land revenue of South Arcot, and 14,500 per annum to Tanjore. A bridge is about to be built over the annicut, on which will pass the inland trunk road to Combaconum. The distance of the lower annicut from the upper annicut on the same river (vide Trichinopoly) is 55 miles in a direct line.

Vellaur River.—This river rises south of the Shevaroy Hills in Salem, and after an easterly course of about 140 miles, falls into the sea at Porto Novo. It passes about 1 mile north of the Veeranum tank. In 1848 an annicut was built at this place called Chait-tope, or Shetty-tope, (distance 16 miles from Porto Novo), at a cost of 85,000 Rs. The irrigating channels are taken off at the north bank and water the Bowangherry talook. It has brought into cultivation

land paying 19,000 Rs. revenue yearly. A bridge of 19 arches, of 31 feet span each connected with the inland road to Combaconum has lately been built over this annicut at a cost of 18,480 Rs.

The Pennar River.—This river rises in Nundidroog north of Bangalore, and after flowing about 220 miles runs into the sea just north of New Town Cuddalore; it is esteemed a holy river amongst the Hindoos, and is reputed to exercise a beneficial influence upon persons of diseased constitutions. Its waters are led off by means of channels to irrigate numerous villages. A causeway has been built over this river just north of New Town Cuddalore, at a cost of 11,000 Rs., but its construction has proved of little use as a means of communication.

The Guddehum River.—Rises among the hills in the Trinomally talook, and runs a mere stream into the sea at Fort St. David. It is less influenced by the seasons than other Indian rivers, and in the hottest months there is a constant though scanty supply of water. There are two annicuts built across this stream, one at Trivady, and one at Trivandepoorum, by means of which 4,700 Cawnies in the Trivady and Cuddalore talooks are irrigated.

Veeranum Tank.—This is one of the largest tanks in southern India. It is in the Manargoody talook; and is supplied partly by the water-shed to the westward, but chiefly by the Vuddavar channel from the lower annicut. The bund which runs north and south is 10 miles long; and when the tank is full, there is a sheet of water upwards of 12 square miles; it is however a shallow tank. Of late years it has seldom or never been full, as there is such a constant demand on the 18 sluices from its banks; in fact, it generally presents the appearance of a channel, the water remaining in the deep parts only of the tank bed. There are about 16,500 cawnies (22,000 acres) of land irrigated by this tank, yielding a revenue of 1,15,000 Rs. yearly. It has three calingalahs for letting off the surplus water in floods, at the south end. Near one of them is a double lock for the passage of boats; for this surplus channel supplies the *Cawn Saib's Channel*, which is used for navigation as well as irrigation. When the Coleroon is full, basket boats from Coimbatore, Salem, and Trichinopoly, bring down iron ore, saltpetre, gram, &c. These go down the Vuddavar as far as the lock, and thence by the Cawn Saib's channel to Porto Novo. It is to be regretted that this canal is not kept in better repair; from neglect of

this the passage of boats is often impassible, and this important line of communication becomes quite useless.

The Wallajah Tank—Is in the Bowangherry talook, and is a work of a very ancient date. The bund is six miles in length, and the tank irrigates lands yielding an annual revenue of 30,000 Rs.

Cuddalore and Fort St. David.

The station is now divided into three portions called Cuddalore (Old Town), Munjacooppum (or New Town), and Fort St. David; at the former is situated the Jail, the lines of the 2d Native Veteran Battalion, the Barracks for 250 European pensioners, (Cuddalore being a depôt under an European officer), the Protestant Church, the Principal Sudder Ameen's Court, and the Sea Custom House; the situation of the Old Town is low and damp, but no bad effects appear to arise from this disadvantage, as the locality is free from sickness. There are many Native merchants residing in this town who trade with the Straits, and also along the coast of India; Munjacooppum or New Town, is about $2\frac{1}{2}$ miles north of the Old Town, and the houses of the European residents are scattered around a large open green, which gives to the place an English appearance. The Hoosoor Cutcherry and the Judge's Court are in this vicinity. Avenues of trees are planted in different directions, the roads near the station are good, and the climate has long been celebrated for its salubrity. There is a Racket Court, and the green before mentioned is a natural Cricket ground, flowers grow in abundance, sweet brier and geraniums flourish, and large quantities of fruit are annually shipped to Madras. "Cuddalore pumplemoses" are noted for their excellence. Fort St. David is on the sea shore, partly surrounded by a backwater, by means of which a speedy communication is obtained with the Old Town by boats. Some houses of the English residents are built upon the ramparts of the old fort, the ruins of which still remain, and serve to show that it must have been of considerable strength. The population of Cuddalore is as follows:—

Old Town.	32,429
New Town.	3,672
Fort St. David.	585

36,686

"Cuddalore" is now spoken of, it generally means New Town, where the gentry reside.

In 1681, Mr. Elihu Yule, then second in Council at Fort St. George, was deputed to obtain permission to build a Factory at Cuddalore. His application was made to Hurjee Rajah, the Mahratta Governor of Gingee; Gingee being at that time the head-quarters of the Mahratta power in the Carnatic, which Seevajee (though acting nominally for the Beejapoor Government), had assumed to himself. Leave was granted, and application was made through the Bombay Presidency to obtain a firman from Sumbajee, who had A. D. 1680 succeeded his father Seevajee. It was not till 1684 that this was granted, and with it permission was given to build a Fort at Thevanapatam, (sometimes written Tegnapatam), now Fort St. David. The Sunnud was made out in favour of Keigwin, Governor of Bombay, and his Council.

In 1702, the whole of the fortifications of the town and fort were re-built; the latter on a plan of Robins. The fort stood about three quarter mile north of the town; both being about half a mile from the sea, but a backwater connecting them. The lands attached to the settlement were rented for 2,807 pagodas,* and the exclusive right of selling betel and tobacco for 2,756 pagodas. The whole area towards the land was guarded by a bound-hedge.

Commodore Barnet, commanding the English squadron, died at Cuddalore in 1746; and after the capitulation of Madras in the same year to La Bourdonnais, the chief inhabitants retired to Fort St. David which then became the seat of Government. Dupleix who had superseded La Bourdonnais, lost no time in marching against it from Pondicherry which is twelve miles north of Cuddalore. The garrison consisted of 200 Europeans, 100 Topasses and some 2,000 half armed Peons. No Native troops had at this period been disciplined. The French crossed the Pennar river and had occupied the chief's garden (now the Collector's residence) when they were unexpectedly attacked by a 10,000 men under Mahfuze Khan, the son of Anwar-ood-Deen, the Nawaub of the Carnatic; who, being jealous of the French, and having been defeated in his attack on them when after the siege they were encamped before Madras the previous year, had declared himself a patron of the English. The French troops, taken by surprise, were thrown into confusion, and suffered a severe loss in retreating across the Pennar. Dupleix then made an attempt on Cuddalore by sea, landing his men in masoola boats south of the fort. This having failed, he cajoled the Nawaub, caused him to withdraw his forces, and then recommenced

* The pagoda is $3\frac{1}{2}$ Rupees or about 7 Shillings.

the siege. The approach of Admiral Griffin's squadron in March 1747 obliged him to retire to Pondicherry.

In January 1748 Major Lawrence of the King's army arrived from England at Fort St. David with a commission to command the Company's forces in India. In June Dupleix made an attempt to surprise the town having by a circuitous route inland advanced unperceived to Bandipolliam. Lawrence was on his guard, a night attack failed, and the French desisted from their efforts.

The next year 1749 in virtue of the treaty of Aix la Chapelle, Madras was restored to the English, but as the defences were inferior, the Company ordered that Fort St. David should continue the seat of Government. In May 1752 the Presidency was removed to Madras again. From Fort St. David Lawrence made his incursion into Tanjore in 1749 when Devicotta was taken, and from Fort St. David he went in 1750 to assist Nazir Jung, but was soon recalled.

In 1755, Clive who had just returned from England with a commission as Lieut.-Colonel in the King's service, was appointed Governor of Fort St. David. Lawrence had left India.

In April 1758, Lally, immediately after he had landed as Governor of Pondicherry, advanced against Fort St. David, and Major Polier, the commandant, surrendered the town of Cuddalore without any attempt at defence.

The French cannonaded the south of the fort from a battery on the N. E. angle of Cuddalore at a distance of 2,000 yards, and on the 16th May broke ground about 1,200 yards due north of the fort almost on the sea shore. The fort was scientifically and strongly fortified, but the body of it very small, being only 140 feet by 390. Each of the four corner bastions mounted 12 guns. It had a garrison of about 600 Europeans (half of whom were seamen) and 1,600 Native troops. The discipline was very ineffective, many desertions took place, and an incessant but ill directed fire expended the ammunition. By the 1st of June the French had carried their trenches to the foot of the glacis—the expected squadron from Madras under Admiral Pococke had not arrived owing to the S. W. monsoon, and on the 2d June 1758, Polier surrendered. The French had only lost 20 men by the fire of their enemies, though very many men died from working in the sun. Lally ordered the fortifications to be razed to the ground. Polier with other prisoners was afterwards exchanged,

and was killed in the famous sally from the beleaguered town of Madras 14th December 1758.

Early in 1760 Colonel Coote after defeating Lally at Wandiwash and driving him back into Pondicherry, possessed himself without much trouble of Cuddalore, (Fort St. David being a ruin) Chellumbrum, and other French garrisons, previously to taking Pondicherry which fell in January 1761. Coote in retaliation for the destruction of Fort St. David, razed the fortifications of Pondicherry to the ground.

In April 1782, Bussy with a French force landed at Porto Novo, and joining the forces of Tippoo who had lately destroyed Brathwaite's detachment in Tanjore, took Cuddalore after a short siege. It then became a favourite station of Suffrein's fleet, and here he set up a kind of docks, and ship yard. The works were also greatly strengthened.

In April 1783, Coote died, and the command of the army devolved on General Stuart, who in June proceeded in a dilatory manner to retake Cuddalore, where Bussy was commanding. On the 13th he made an assault, but was repulsed by a vigorous sortie from the garrison, and after a loss of 62 officers and 920 men killed and wounded, 500 of whom were Europeans, was driven back to his trenches. The honor of the day was in some measure retrieved by the gallant conduct of the Bengal sepoys, who had accompanied Colonel Pearse (by land) from Calcutta. They crossed bayonets with their European adversaries and with success. It had hitherto been supposed that Native troops would not stand a bayonet charge of Europeans.

The next day there was a drawn battle off Cuddalore between the fleets of Sir E. Hughes and Suffrein; but this did not prevent Suffrein from assisting the garrison, by landing every man he could spare. The French subsequently made several sorties, in one of which Bernadotte, then an Ensign, was made prisoner.

A few days after this when Stuart was expecting to be reinforced by Colonel Fullarton, and was preparing for another assault, the news arrived that peace had been made between France and England. Though there was no official announcement, Stuart sent a flag of truce to Bussy, ceased hostilities, and withdrew his troops: June 1783. His conduct altogether had been so unsatisfactory that he was obliged by Lord Macartney to leave the country.

From this time the settlement continued to flourish, being quite independent of the Nawaub, whose territories in what is now the South

Arcot district, were suffering from every species of misrule. Cuddalore continued a separate charge, even for three years after the Soubah had been transferred (in 1801) to the English Government.

Porto Novo.

During the invasion of the Carnatic by the Beejapore forces about A. D. 1650, their conquests extended to the Coleroon and the east coast, including Porto Novo. In 1682, the Madras Government attempted to open a trade there, and sent a ship with factors and a cargo. The Mahratta Governor under Hurjee Rajah, (see Gingee), demanded such exorbitant terms that it amounted to a prohibition. Sumbajee in 1684 when he granted to the English the Factory at Cuddalore, gave orders for allowing a free trade at Porto Novo. In April 1749 the English force advancing into Tanjore, halted here to repair the damages caused by the great storm, in which the *Pembroke* man-of-war was lost off Cuddalore, and the *Namur* with Admiral Boscawen was nearly stranded.

Porto Novo is celebrated in the history of southern India, as giving name to the battle fought near it at Mootapolliam on the 1st July 1781, which saved the Carnatic. Coote had been repulsed by Hyder in an attempt on Chellumbrum, and was falling back viâ Porto Novo to Cuddalore; after leaving Porto Novo he had advanced a few miles by the sea shore, when he found himself intercepted by Hyder's whole force which had made a rapid march, and had actually thrown up batteries across Coote's path, his left being a range of sand hills, and the sea confining him on the right. The British army made two determined assaults; one on the batteries which were carried, and one through an opening in the sand hills which Hyder had neglected to guard, and by which they came suddenly on his flank. A schooner of war belonging to the squadron, at the same time appeared in sight, and standing in close to the surf poured in her broadsides, which though from guns of small calibre tended greatly to confuse the intercepting force. The day ended by a complete rout of Hyder's army. The British force was 7,878 men including artillery. Hyder's 60,000 at the very least.

The town of Porto Novo is also called Feringipett, and Mahomed Bunder: it was formerly a place of great trade, but has never recovered the devastating effects of Hyder's invasion of the Carnatic in 1780. Both the Danes and the Dutch had a factory there. It is situated in 11°

31' N. Latitude, and 79° 51' E. Longitude, at the mouth of the river Vellaur, which is here a stream of some breadth, but shallow. All large vessels discharge and take in cargo outside the bar. Porto Novo has of late years become a place of more importance in consequence of the establishment here of an iron foundry by an English Company. Extensive buildings were erected and machinery put up, and in the years 1833 to 1838 it presented an interesting spectacle of European skill and activity. Ore of a very pure kind found almost on the surface was brought down from Salem by the Coleroon river, and the supply was unlimited. Various causes afterwards led to the decline of the business; but it is now likely to recover, a new Company having been formed with ample means. The iron and steel produced are of a superior quality. To facilitate the water communication, the old Cawn Saib's channel in the Manargoody and Chellumbrum talooks was made a navigable canal, and two locks were constructed, one at Porto Novo where the canal falls into the Vellaur, and the other where the canal takes off from the Vuddavar calingalah.

The population of Porto Novo is altogether about 12,000 : of whom a great proportion are Lubbays, or merchant Mahomedans. Porto Novo is in the Bowangherry talook. A police ameen and superintendent of sea customs are stationed here.

Chellumbrum

Is the chief town of a talook of that name; it is situated on the lower road between Madras and Trichinopoly, and is about 130 miles from the former place. There is a good public bungalow at Ammiapettah, a mile to the south of the town, which is the usual halting place for travellers, it being quieter and more open than the one situated in Chellumbrum; the population of this town is about 11,000, amongst whom are a large body of weavers. Nearly the whole of this talook is irrigated by two streams, the Vuddavar and Rajah Voikaul, which are led off from the lower Coleroon river at the annicut.

The town of Chellumbrum is noted among the Hindoos for its sanctity. The great pagoda called Sabanaiker covil belongs to the Siva sect, and was founded by one of the kings of Cholamundalum; it is maintained partly by the offerings and annual contributions of Hindoo votaries in all parts of southern India, and partly by an allowance paid by Government in lieu of its resumed land endowments. The people of Ceylon and the Nauttoocottah merchants of Madura hold this temple

in special veneration and contribute largely to its support. The two principal festivals take place, one in the month Aunty (June), and the other in Margaly (December), numbers of pilgrims flock in to the temple from all parts of the country. The right of officiating in the pagoda is said to have been originally shared by three thousand Brahmins called Deetchedurs, of whom about two hundred families now exist. The space enclosed by the walls is 640 by 500 feet or $7\frac{1}{3}$ acres. The edifice is mostly built of granite, and it is surprising to consider the labour and time it must have taken in a rude age, and with very little assistance from art, to bring to the spot and cut these enormous blocks of a material which is not found within a distance of many miles. But here as in so many other instances the vanity and religious feeling of princes, worked on by priests, displayed itself in thus accumulating the labour of their subjects. The single blocks of granite composing the pillars and roof of the main gateway, are each of them thirty feet in length and five feet square. In one part of the pagoda there is a roof supported by one thousand solid granite columns, and the lights from the gopuram, 122 feet high, can be seen from the sea, ten miles distant. Vessels passing can see the gopuram in the day time. The French took Chellumbrum in 1753 and held it during the war. It surrendered to Major Monson, 12th April 1760.

On the 18th June 1781 Colonel Coote was defeated in a night attack on the fortified pagoda then garrisoned by Hyder. The attacking party under Coote's personal direction, were repulsed with considerable loss, after forcing their way through two of the three enclosures. The failure was more than compensated at Porto Novo on the 1st July.

Verdachelum.

This is the Cusbah of the talook of the same name. It is in N. Latitude $11^{\circ} 30'$ and E. Longitude $79^{\circ} 30'$ on the north bank of the Manymoota Nuddec, 30 miles due west of Porto Novo. It is now the place of residence of the Sub-Collector, and was formerly the station of the Verdachelum zillah: the Court was long ago removed to Cuddalore. It was a place of some importance during the Carnatic war, for it was on the high road from Trichinopoly to the English and Nawaub's encampment at Trivady, and it also protected ~~the communication~~ with Fort St. David. The pagoda is an extensive one, ~~and was well fortified,~~ by the addition of towers at the angles,

and masses of masonry projected from each of the sides, as gateways. In April 1751 after the death of Nazir Jung, and Mahomed Ali's flight to Trichinopoly, the Madras Government as soon as they had made up their minds openly to support the latter sent a body of troops from Fort St. David, under Captain Gingen, to take Verdachelum, then garrisoned by Chunda Sahib's troops. On preparations being made for assault, the garrison surrendered. Later in the year when Mahomed Ali evacuated Trichinopoly, Verdachelum was the only fort north of the Coleroon that acknowledged his authority. It was at this time invested by the troops of a neighbouring Poligar, who was driven off by an English force proceeding to Trichinopoly. Mr. Pigot, and Lieut. (afterwards Lord) Clive, were with this force, but were directed to return to Fort St. David. On their route with a small escort, they were intercepted by the Poligar's forces, and only saved their lives by the fleetness of their horses. In July 1753, Dupleix after the taking of Chellumbrum, sent a sepoy force under Hassim Ali against Verdachelum; the garrison consisted of only 50 sepoys, who surrendered after a slight resistance. In April 1760, Major Monson after re-taking Chellumbrum, advanced with the Nawaub's troops to Verdachelum. The commandant seeing that a breaching battery was being erected, surrendered this fort as well as that of Chellumbrum; which was then garrisoned by the Nawaub's troops under the command of Kistna Row of Tiagar.

Trivady.

A small town on the river Guddelum, 16 miles west of Cuddalore, the Cusbah of the talook of the same name. It was a place that experienced much of the vicissitudes of the war with the French, the pagoda being fortified, and defending the pettah. In June 1750, whilst Nazir Jung and Mahomed Ali were at Arcot, M. Dupleix possessed himself of the place without resistance. On this, Mahomed Ali, having obtained the assistance of a body of English troops from Fort St. David, under Captain Cope, marched to re-take it in the July following. The commander refused to surrender, but the Nawaub declined the assault and ignominiously drew back, on which Cope returned to Fort St. David. Deprived of English aid, Mahomed Ali's army was, in the neighbourhood of Trivady, soon routed by the force sent against it by Dupleix, who at once marched on and took Gingee.

In 1752, after the death of Chunda Sahib, the garrison surrendered

without resistance to Major Lawrence ; and the English with Mahomed Ali's forces encamped here ; from this they made incursions into the country to secure the districts for the Nawaub. In September 1752, Major Lawrence marched hence to attack Wandiwash which was ransomed. On the 3d January 1753, the united forces of the French and Mahrattas, the latter under Morari Row, (who after Mahomed Ali had left Trichinopoly, hired himself to Dupleix), entrenched themselves on the banks of the Pennar, in sight of Trivady. They attacked Lawrence on the 9th May, but were gallantly repulsed. Still they continued to harass the English and Nawaub's forces for several weeks, especially the convoys to and from Fort St. David. On the 1st of April the English force under Lawrence marching from Fort St. David to Trivady encountered the Mahrattas, who made a furious onset and were with difficulty overcome. A few hours after, the French army were fallen in with close to Trivady. An engagement took place in which the French were entirely defeated. Lawrence and most of his troops were now summoned to Trichinopoly ; as were most of the French force. The remainder attacked Trivady (April 1753) Capt. Chase, the commander, drove them back twice ; the third time they took the pettah, and the garrison becoming mutinous, forced Chase to capitulate. After taking Vurdoor (April 1769), Coote detached a small force to take Trivady, which surrendered without resistance. The last military event of any importance connected with this place, was in July 1760. At this time Coote was blockading Pondicherry, and the Mysoreans to whom the French had given Gingee and Tiagar, were marching in convoy of stores and provisions to relieve Pondicherry. Near Trivady they were met by Major Moore, who had 180 Europeans, 1,100 sepoy, and 1,600 horse under Kistna Row of Tiagar. The Mysoreans had 200 Europeans, 1,000 sepoy, and 4,000 horse. The Native troops of the English force soon gave way, and the force was totally routed ; not sorry to escape into Trivady.

Punrooty.

A town of considerable size in South Arcot, in the Trivady talook ; which may be considered a suburb of the town of Trivady. It contains 3,427 inhabitants. The Native merchants formerly congregated here in great numbers, but lately the trade has decreased ; there is a good ~~public~~ bungalow, and the road from Madras to Villapoorum is being extended from the latter place through Punrooty to Combaconum.

Tricullore.

One of the western talooks. The Cusbah of Tricullore stands on the banks of the Pennar river, the pagoda is handsome, and the architecture superior to that observable in most buildings of this kind. There is a public bungalow in the town. This locality is considered particularly healthy by the Natives of southern India, many of whom after a life spent in active employment, resort hither to finish their days in peace and tranquillity.

Tiagar or Thiagar.

A village and fort in the Ellavanesore talook, Latitude $11^{\circ} 46' N.$, Longitude $79^{\circ} 10' E.$ It is also called Tāgadūrgam: it is about 30 miles south of Trinomaly. On the rocky mountain south of the village are the remains of a strong fortification in two parts one above the other but communicating.

In November 1757 after the fall of Chaitpet and Trinomaly, the French forces under Saubinet advanced against Tiagar. The pettah had then not only a mud wall round it, but a strong bound-hedge from which neither French cannon nor musketry could dislodge the defenders, and Kistna Row, the killadar, defended the whole so well that the French retired to Pondicherry. In August 1758 Kistna Row sallied out and took by storm Trinomaly (q v). Towards the end of 1758 on Madras being threatened, Mahomed Issoof was recalled with a force from Trichinopoly and directed to carry on a partizan warfare in his way to join Preston at Chingleput. In December he joined Kistna Row at Tiagar, and they carried on effectually their devastating operations taking Ellavanesore, Tricullore, and Trivenellore, and even threatening Pondicherry itself.

In 1759 the French exasperated at Kistna Row's continued ravages, despatched a strong force from Pondicherry which took Ellavanesore. Meanwhile Captain Joseph Smith at Trichinopoly had sent three companies of sepoys under Hunterman, the Serjeant Major, to assist in the defence of Tiagar. Another detachment followed, which Kistna Row came out with all his horse to escort. They were intercepted and destroyed by the French army, and Kistna Row with difficulty escaped and joined the Nawaub at Trichinopoly. He afterwards became an authorised marauder in the French districts and assisted in taking Chellumbrum in 1760. After a sturdy resistance Hunterman surrendered Tiagar on honorable terms, 25th July 1759.

In May 1760 Lally (besieged in Pondicherry) entered into secret a negotiation with Hyder, and agreed to deliver up Tiagar if he would send some 5,000 Mysoreans to defend it and Ellavancore. It was not till Kistna Row who was on the look out informed the Madras Government that the Mysore force under Mukhdoom Ali, Hyder's brother-in-law, was actually entering Tiagar (in June) that they knew matters had gone so far; but in October Hyder who was hard pressed himself in Seringapatam, recalled his troops and restored Tiagar to the French; having afforded Pondicherry no assistance beyond conveying some supplies. The French garrison then became the terror of the country, and Major Preston in the beginning of December resolved to cut off the supplies by blockade. In January he attacked and took the pettah, but the garrison held out on the fortified mountain. As soon as Pondicherry had fallen (the same month) Coote sent guns to Preston; and on the 3d February the commandant surrendered, though he might have held out much longer.

In May 1781 Hyder's army reduced the fortress of Tiagar, but on his quitting the Carnatic it again fell into the hands of the English. In December 1790 it was attacked by Tippoo; but Captain Flint, the well known defender of Wandiwash in August 1780, repulsed two assaults; and Tippoo did not venture a third, but proceeded to Trinomaly.

Gingee (or Chenjee.)

A ruined but imposing hill fort and village in the Chaitpet talook, 50 miles south of Arcot. It is in Latitude $12^{\circ} 16' N.$, and Longitude $79^{\circ} 28' E.$ On our assumption of the Carnatic it was the Cusbah of a talook of the same name. There are three lofty rocky hills in the form of a triangle enclosed by a strong wall flanked with towers and the circuit of which is three miles; besides this there were fortified enclosures, double round the eastern, and treble round the westernmost hill (the highest), on the summit of which was a small fort, now in ruins, which could be held by a very few men against any force. There is always water to be found in a natural hollow of the rock. In the less elevated ground between the three hills were the barracks of the French garrison; and close under the eastern wall was the pettah. It was considered the strongest fortress in the Carnatic.

The place has a bad name for fever, but this would seem to apply only to the hills and the space between them. The French are said

to have lost 1,200 Europeans by fever during the 11 years they garrisoned Gingee; though they seldom had above 100 Europeans there at a time.

The fortress was built on an old foundation of the Chola kings, by Vijaya Runga Naik, the Governor of Tanjore in 1442; and was part of the old Vijayanuggur kingdom. It was taken by Bundoola Khan, the Beejapore General in 1655, during his incursion into the Carnatic with Shahjee (father of Seevajee) as his second in command. On his return to Beejapore, Shahjee was left in possession of the Carnatic conquests above the ghauts, which were eventually considered his jaghire.

In 1677 Seevajee who had founded the Mahratta dynasty, made his celebrated inroad into the Carnatic, and in May advanced on Gingee. At this time it was held by a Governor named Amber Khan, nominated from Beejapoor, but Seevajee professing himself the servant of Beejapoor, drew the old killadar out to a conference, seized him, and obtained Gingee without a blow, and made Ragonada Narayana Governor. Seevajee died in 1680, and soon afterwards the Gingee Governor died also. Seevajee's son and successor Sumbajee then appointed Hurjee Rajah as Governor, and placed under his charge all the districts in the Carnatic that Seevajee had conquered. Hindoo Governors, professing allegiance to Aurungzebe who was rapidly conquering Beejapoor, still held the districts of Conjeveram, Poonamallee, and Arcot, which however yielded to Harjee Rajah in 1687. After the fall of Beejapoor in 1686, and Golconda in 1687, Aurungzebe lost no time in securing the Beejapoor districts to the south, and sent a Mogul force (the first that ever entered the Carnatic), under Mahomed Saduk alias Cassim Khan. In February 1688 he drove the Mahrattas out of Conjeveram and Poonamallee, and established his camp at Wandiwash, but Harjee Rajah fell back on Gingee and Chaitpet.

On Sumbajee's death in 1689 and the capture of his son *Shao*, he was succeeded by his half-brother Rajah Ram, who in 1690 fled from Aurungzebe, and established himself as a Mahratta sovereign in Gingee.

Zoolfikur Khan was sent in 1691 with a large army into the Carnatic. Though he exacted contributions from Tanjore and Trichinopoly he wasted years besieging Gingee; and was at one time obliged to raise the siege altogether, in consequence of an inroad of Mahrattas

from the N. W., and his proceedings were characterised by inactivity if not with disaffection. In 1698 hearing that Aurungzebe was coming in person he commanded Gingee to be stormed. It was taken, but Raja Ram had previously escaped to Vellore and thence to Sattarah.

After Zulfikur Khan had proceeded north to the Deccan, Gingee was governed by Daood Khan, Zoolfikur Khan's Lieutenant.

It is not clear whether on Zoolfikur Khan's departure he left Daood Khan as killadar of Ginjee, and Saadut Oola Khan as Soobadar or Governor of the Carnatic (as some MSS. assert) or whether Saadut Oolla Khan succeeded Daood Khan. When the latter went north in 1715, Gingee was the residence of Saadut Oolla Khan, the first Nawaub of the Carnatic, who about that time removed his seat of Government to Arcot.

Gingee was the first rendezvous of Nazir Jung, Soobadar of the Deccan, when he entered the Carnatic in 1750. In September of that year, it was taken by storm by the French under Bussy, the redoubts on the three mountains being carried successively sword in hand; only Europeans were selected for this enterprise which was made at night, and little defence offered. It was within 16 miles of Gingee that Nazir Jung's army advancing from Arcot was routed by the French, who were assisting Moozuffer Jung's troops. Nazir Jung was treacherously slain by some of his Patan allies during the battle, 5th December 1750.

In July 1752, Mahomed Ali persuaded the English to send a force against Gingee under Major Kirnecr. He had only 200 Europeans, 1,500 sepoy, and some of the Nawaub's cavalry. The French commandant refused of course to surrender, and though some cannon were expected from Madras, Kirnecr on seeing what was before him, thought it advisable to retreat.

In February 1761 after taking Pondicherry, Coote detached a force under Captain Stephen Smith to Gingee. The Governor (Macgregor) assumed a very resolute attitude at first, but Smith took the town by a night assault, and afterwards (by the aid of deserters) he surprised the southern hill. On the 5th April the rest of the garrison capitulated. In 1780 on Hyder's invasion of the Carnatic, Gingee was attacked by the Mysoreans. The killadar gave up the lower fort at once, and Ensign Macaulay was forced by his mutinous garrison to

Trinomaly.

One of the western talooks. Within its limits are large tracts of jungle which afford shelter to wild beasts of all descriptions, for the destruction of which rewards are given by Government. The Cusbah (of the same name as the talook) is in Latitude $12^{\circ} 15' N.$, and Longitude $79^{\circ} 9' E.$ It is a large town chiefly celebrated for its beautiful and extensive pagoda which stands to the east and at the foot of the Trinomaly hill. It is chiefly maintained by endowments bestowed by the ancient Hindoo rulers; for though the lands which formerly constituted these endowments have been resumed, their value is paid in money. The great festival takes place in November, a few days after the new moon, when there is also a large cattle fair. At this period people congregate hither from all directions, and it is computed that not less than 78,000 persons annually attend; during the celebration of the festival a large light, kept up with ghee, cloth, &c., burns for three days unceasingly, in a small chapel on the top of the rock, and the purana of the place asserts that if any one looks at the "Trinomaly deepavali" whilst it is burning, whatever sins he may have unconsciously committed up to that time are forgiven him.

The town and fort of Trinomaly experienced continual attacks during the Carnatic wars. The fort on the hill was never of any great strength; but it was the first that an enemy would meet with, advancing from the western passes.

In July 1753 the garrison of Trinomaly under Berkatoolah, a general of Mahomed Ali, successfully resisted a combined attack of the Mahrattas under Morari Row, and Velloreans under Moortiz Ali. Moortiz Ali continued the siege after the Mahrattas had left, but was driven off with loss by a relieving party from Arcot in September.

In October 1757 it was re-taken by the French. Next year it was given over to Rajah Sahib, the son of Chunda Sahib, but was taken from him August 1758 by Kistna Row, killadar of Tiagar.

A French detachment was sent against it, but the killadar appointed by Kistna Row gallantly held out against three assaults; the pagoda was at last taken by storm in September 1758, and 500 men put to the sword. In February 1760 the French garrison surrendered to Captain Stephen Smith. In August 1760 the Mysoreans invested Trinomaly but after several assaults, were beaten off. In September 1752, it was captured by Lally on his way to Arcot. In April 1761,

after Lally's retreat before Coote from Arcot it surrendered to the British.

In 1767 the combined armies of Hyder in revenge for the English occupying the baramahal which he considered his territory (though he had taken it from the Carnatic), effected an alliance with Nizam Ali, and in September 1767 their forces invaded the Carnatic by the pass of Changama, 15 miles W. by N. of Trinomaly. Here Colonel Joseph Smith obstinately opposed them; but overpowered by superior numbers was obliged to retreat to Trinomaly, where he was secure; but the whole country was ravaged.

In October Colonel Smith having been reinforced and able to muster 11,000 men and 31 light pieces of cannon marched out of Trinomaly and gallantly attacked the camp of the allies, whose force was 42,800 cavalry, and 28,000 infantry with 109 guns. They had above 4,000 killed and wounded, and the Nizam lost 70 pieces of cannon. Another action at Amboor drove Hyder out of the Carnatic in December, and the Nizam lost no time in breaking off his alliance. It was again by way of Changama that Hyder invaded the Carnatic, July 1780. In January 1791 Trinomaly was besieged by Tippoo. There was no European commandant, and the town surrendered unconditionally. The devastation and outrage on this occasion were horrible.

Chaitpet or Chittapet.

The northernmost talook in the district, Latitude $12^{\circ} 28' N.$, and Longitude $79^{\circ} 25' E.$, bordering on North Arcot. The Cusbah town of the same name was once celebrated for its fort which was—next to Gingee—the most important in this part of the Carnatic.

The fort of Chaitpet was a stronghold of the Mahrattas, and retained by them for some time after Aurungzebe's troops entered on the Carnatic in 1688. Even after the accession of the Carnatic Nawaubs, Chaitpet was entrusted to a killadar appointed direct by the Soobadar of the Deccan. It was to this fort that Shahnavaz Khan, Nazir Jung's dewan, fled after the fatal battle of Gingee, in 1750. (He afterwards was reconciled to the new Nizam, and became a formidable rival at court to Bussy).

In October 1757 the Marquis Soupires within a month after his arrival as Governor of Pondicherry advanced towards Chaitpet with a view of establishing the French power in that neighbourhood, for they had held Gingee since 1750.

The killadar of Chaitpet was Nazir Mahomed ; holding his sunnud from the Nizam, the Nawaub was jealous of him and spread such reports as to his disaffection, that the English became suspicious of him, and demurred sending him that aid which he earnestly sought. He held great state at Chaitpet and was confident of the strength of his charge if properly supported. The fort was of stone 540 yards by 430, being five times more extensive than Fort St. David though it had no such out-works. There were round towers at the angles, and 10 massive square towers at the sides, and a ditch ran all round. The northern gateway could contain on its terraces 500 men. The deficiency was in men and cannon. On the west of the fort was the pettah ; which the French carried by assault after a brave resistance ; they then commenced a battery which was once destroyed by a sally, but on the 14th October the breach being practicable an assault was made by the grenadiers of Lorraine, whilst another party escalated on the opposite side. After a desperate resistance the fort was taken, the killadar disputing the breach till he was killed. The whole garrison was put to the sword except the few that escaped.

After the battle of Wandiwash (January 1760) Lally fell back on Chaitpet, and thence (without reinforcing the garrison) to Gingee. Coote immediately advanced against Chaitpet, and commenced throwing in shot and shell. In the face of such a force, the commandant De Tilly with a garrison of about 400 men, surrendered at discretion. Captain Airey was left in charge, and Trinomally was also placed under him.

In June 1782 the army of Coote which was rapidly advancing to Arnee where Hyder had a depôt of treasure and military stores, was suddenly overtaken by Hyder himself a few miles N. E. of Chaitpet which Coote had made his head-quarters, and was sufficiently discomfited to enable Tippoo to carry off the valuables from Arnee, whilst his father engaged our troops. Coote without attacking Arnee returned to Madras.

Hardly a vestige now remains of the fort of Chaitpet.

Merkanum.

Is situated on the sea coast in the talook of Tindevanum in South Arcot, it is about 70 miles from Madras, and is chiefly noted for its *salt pans*. These are very extensive, and the salt manufactured there

is held in high repute, the crystals being large and white, the Koravers and Lumbadies come in great numbers to this locality to purchase salt which they carry away on bullocks to Salem, Mysore, and other provinces in the interior, the quantity of salt annually manufactured is 4,000 garce, the Government monopoly price* of which amounts to nearly five lacs of Rupees. A bridge and causeway have been thrown across the backwater at Tenpaukum to facilitate the access of purchasers to the salt depôt; but good roads are still very much wanted. There is a bungalow at Merkanum about $1\frac{1}{2}$ mile inland, off the road. Dhonies occasionally touch at this subordinate port. The salt required for consumption in Pondicherry is sent thither from these pans. (Vide Pondicherry).

Permacoil.

On Lally's retreat to Pondicherry after the battle of Wandiwash in January 1760, Coote's army followed him viâ Chaitpet and Tindevanum. The strong though small hill fort of Permacoil, 5 miles E. S. E. of Tindevanum, Latitude $12^{\circ} 14' N$, Longitude $79^{\circ} 29' E$, now became the guard of the Pondicherry districts. Hitherto it had remained unnoticed during the war, and Lally now persuaded the killadar to admit a party with some cannon into the fort. The rock on which the fort stood (its ruins yet remain) is not above 400 yards by 200, and its height from 300 to 200 feet. Only part of the summit was a proper fort; what was called the lower fort was merely a space enclosed with a loose stone wall; but the whole rock is exceedingly steep. The pettah was first taken by Coote, and subsequently the lower fort by a night surprise. This success encouraged Coote at once to attack the upper fort. The enterprise was desperate: the ladders were too short, and after Coote had been himself wounded and many of his officers and men killed, he was obliged to retire. The killadar had previously joined the English, but the upper fort was gallantly defended by the French commander. A small battery was now erected in the lower fort, but when all was ready for a second attempt, the garrison surrendered at discretion, (5th March 1760). They had hardly any ammunition left, and only two days provisions. This place surrendered to Hyder's army in April 1782. It was garrisoned by four companies of sepoys, under two European officers. The officer who

*The cost price to Government is about 30,000 Rupees.

commanded thought it imprudent to stand an assault when there was a practicable breach. It was re-taken by the English army on their way to attack Cuddalore, (May 1783).

Trivictory.

A village in the Villapooram talook, situated on the north bank of the Arriancoopum, or Villanore river, about 13 miles W. N. W. of Pondicherry. The place at present consists of a few scattered huts, but from the appearance of the Pagoda, the interior of which is built of stone, the size of the tower over the gateway, which consists of eight stories, and a large stone tank covering several acres of ground, we may conclude, that in some former period Trivictory was a place of great extent and importance. The principal streets can still be traced, and appear to have been large ; there are Sanscrit inscriptions on the walls, but they are now scarcely legible. The Pagoda was much injured and the figures mutilated by Hyder's army, as it retreated from Porto Novo after Col. Coote's victory of 1st July 1781.

Trivictory is now principally remarkable for the *petrifications* in its vicinity. They are found on a rising ground of sandstone, which may be seen from the bungalow at Verdoor, (4 miles S. E. of Trivictory). Many petrified trees of large dimensions without branches or roots lie scattered about. One of them is nearly 100 feet long, and 5 feet in diameter. They are as hard as flint, strike fire with steel, and take a very fine polish. They are in fact silicified. They also present a variegated appearance in veins and colours, resembling agate when polished ; and the red when well chosen, can scarcely be distinguished from cornelian. They are manufactured into beads, necklaces, bracelets, and other ornaments.

The present growth of trees in the neighbourhood are principally of the Tamarind species, from which circumstance it has been inferred, that the petrifications have the same origin. Recent investigation has however shown that they are of the Coniferous order.

They lie in and around what appears to be a large crater, and from this shape, the petrified appearance of its sides, and from hollow tubes of cemented grit and sand with apertures by which the gases have escaped, it is conjectured that the remains of these trees have been uprooted by volcanic agency. Popularly they are said to be the bones of a monstrous giant overthrown by the gods in olden times ; and the

pagoda on the low ground is said to be commemorative of the incident. The Mound is called in Tamil Teroovakurray, (whence Trivicary) or "the holy bank."

Verdoor

Spelt in Arrowsmith's large Map Valudavur, and by Orme Valdore. It is a village in the Villapooram talook, 10 miles W. N. W. of Pondicherry. It is in a pleasant situation, and has a neat public bungalow seldom used by travellers as the road is now in disuse. Verdoor has many associations in connection with the Carnatic war. It was here (March 22d, 1850) that Nazir Jung was joined by Major Lawrence and Mahomed Ali. The next day M. D'Auteuil and the French forces cannonaded the Soubadar's forces, and it was on this occasion that D'Auteuil sent to Lawrence to say that he did not wish to spill English blood, but he could not be blamed if any French shot came their way. Lawrence replied he might know where the English were posted, as the English colours were carried on the flag-gun of their artillery, and if any shot came that way he would return them. The cannonade of the French did little execution, and D'Auteuil finding both officers and men mutinous, withdrew next day to Pondicherry. The Soubadar in vain endeavoured to induce Lawrence to accompany him to Arcot, and the English General little satisfied with the Mahomedan monarch, returned in the end of April from Verdoor to Fort St. David. On the 18th December 1758, the united forces of Kistna Row (see Tiagar) and Mahomed Isoof, after threatening Pondicherry, cut the bund of the great tank of Verdoor, and being in the height of the monsoon a large extent of cultivation was destroyed.

The French now strengthened the fort. It was in extent 300 yards by 210, situated in a plain, and like most of the Native forts it had a rampart with towers, a *fausse-braye* and a ditch. Dupleix raised a glacis on the north, and converted two of the towers into bastions. The pettah was to the west. In April 1760, Coote having first taken the pettah opened his batteries on the fort. The French at Villanore made some pretence at succour, but the breach being practicable, the commandant who had only about 360 men surrendered on the 16th April.

It was an important out-post of the English army till the surrender of Pondicherry, January 16, 1761. To the east and north-east of Verdoor at a distance of 3 or 4 miles, an interesting geological

discovery was made by Messrs. Kaye and Cunliffe, of the Civil Service ; namely, a limestone bed containing fossils in abundance. These and others of a similar kind presently to be named are the first fossils—and indeed, the only ones—discovered in southern India, the general formation of the country being of an age anterior to animal life.

The beds, as far as yet searched, extend over some 3 or 4 miles and may be said to abound (though doubtless the surface has been well gleaned, and future explorers may have to dig up the limestone blocks in which the fossils are imbedded) in shells, many of which are in a high state of preservation. A collection of them has been deposited in the rooms of the Geological Society of London,* and the shells, the greater portion of which belong to new and hitherto undescribed species, have been named by Professor E. Forbes. The teeth of fishes are common throughout the formation ; and these have also been submitted to, and reported upon by, Sir Philip Egerton, who characterizes them as belonging to the Squaloid family of the Placoid order ; only two specimens out of a large number being referable to the Ganoid and Cycloid genera. The reports of these gentlemen, together with figures of the more remarkable shells may be found in Part 3, Vol. VII. of the Transactions of the Geological Society. It will be sufficient in this place to mention a few of the shells which will repay search in the Verdoor deposit, namely Hamites and Baculites in abundance ; beautiful specimens of Nautili, Ammonites, Belmnites, Echinida, Zoophytes, numerous bivalve and spiral shells and fishes' teeth. Petrified wood may be obtained, for the most part pierced by the Teredo, and a single Vertebra of a Saurian has also been discovered.

Paroor

A village 10 miles west of Verdachelum, where a number of fossils have lately been discovered. This deposit is generally known as the "Trichinopoly" deposit, as it is most manifested at a place 25 miles N. W. of Trichinopoly, called Ootatoor. The limestone in this deposit is not so pure as at Verdoor ; the fossils not in so good a state of preservation ; and more difficult to separate from the rock. At Ootatoor the limestone is generally of a dark sandy colour, but the shells very fresh in appearance, so much so as to induce the conviction at first,

* They are generally known in England as the Sydapett fossils, from the village of Sadarampett, (just 2 miles east of Verdoor) where the first specimens were found. This is a village belonging to Pondicherry.

of their being of the tertiary period. The shells are firmly imbedded in the rock, and consist as far as can be learned of bivalves and spirals. A specimen of *Ophiura* has also been found. No Ammonites, nor indeed any chambered shells, have yet been met with, though the *cast* of a chamber of an Ammonite which must have been above two feet in diameter was once picked up. The tooth of a fish has also been discovered. Slabs of this shelly limestone are cut and polished for small tables, and present many curious sections of the shells. This interesting Deposit requires to be more thoroughly searched. The Paroor bed is as yet distinguished from the Ootatoor by its characteristic Ammonite with a dorsal ridge—and the Pecten. The spiral with a peculiarly large and projecting lip, is characteristic of Ootatoor.

Remarks on the relative age of the above beds.

The following observations are taken from the paper in Vol. VII. of the Geological Transactions “on Fossil Invertebrata from Southern India.”

“The deposits at the three places (Verdoor, Paroor, and Ootatoor), are connected with each other geologically by the associations of certain species common to two of them, with others found in the third. Thus *Pecten quinque costatus* and *Pavohda Orientalis* occur in both Pondicherry and Verdachelum beds. *Voluta cincta* at Pondicherry and Trichinopoly; *Chemnitzia undosa* and *Cardium Hilanum* at Verdachelum and Trichinopoly. These identifications are so certain, that there can be no question of the mutual geological relations of the beds, and of their being members of one system.

“The beds apparently contemporaneous, viz., Trichinopoly (Ootatoor) and Verdachelum (Paroor), may be regarded as equivalent to the Upper Greensand and Gault. On the other hand the Pondicherry, (Verdoor), deposit may be regarded as belonging to the lowest division of the Cretaceous system. In it almost all the fossils are new.

“In every point of view this collection is of the highest interest. The fossils are as beautiful as they are interesting, and specimens of the finer species seem to be abundant. It is most desirable that further inquiries be made into the *Stratigraphical* relations of the beds whence they are procured; Verdachelum and Trichinopoly will doubtless yield many more species than have yet been brought to Europe.”

PONDICHERRY, AND THE FRENCH POSSESSIONS IN INDIA.*

I.—GENERAL HISTORY.

The first establishment of the French in India dates as far back as 1668. From 1503 to that period, various attempts had been made to obtain for France the commerce of this part of the world, but without success. The French first adventured to India in 1601, when two ships were fitted out from St. Maloes, under the command of Lieut. Bardelieu. They were both lost off the Maldives before reaching their destination. In 1604 Henri IV. incorporated the first French East India Company with a Charter for 15 years. Colbert did not, however, allow himself to be discouraged by the fruitless results of efforts prolonged for more than a century and a half. In 1664, he re-established on a better and more extensive basis the East India Company, which the Cardinal de Richelieu had created 22 years before. The monopoly of the trade for fifty years was accorded to this Company, which soon collected funds to the amount of 15 millions of francs. In the commencement it displayed great activity. Two successive expeditions were undertaken for the purpose of renewing the attempts at colonization before made in Madagascar; but these expeditions having failed, the Company renounced the projects which they had formed for Madagascar, and a direct commerce with India was again undertaken and continued with spirit.

In 1668, an old merchant of French origin, named Caron, an active and experienced man, became chief of the East India Company. He first selected Surat, but this town though flourishing and well situated, did not realize the idea which he had formed for the establishment in India. He was desirous of having a port in a place where spices grew; and the Bay of Trincomalee, in the island of Ceylon, appearing to him the most eligible spot, he took it from the Dutch, then at war with France; these, however, were not long in re-possessing themselves of it, and Caron then passed to the Coromandel Coast. He there took in 1672, St. Thomé, a Portuguese town, (now a suburb

* It has been thought better to concentrate the account of all the French possessions under the head of "Pondicherry," and to include the settlements in Bengal. In the Madras Presidency the French Settlements are Pondicherry (in S Arcot), Karical (in Tanjore), Yanum (in Rajahmundry), and Mahé (in Malabar). Besides the two "lodges" in Masulipatam and Calicut. The Pondicherry Settlement is surrounded on every side but the sea-side, by the district of *South Arcot*, and the villages are much intermingled.

of Madras), which had been in the possession of the Dutch for twelve years; but in 1674, the Dutch again compelled the French to restore this conquest to them.

This event would have given the last stroke to the Company, whose affairs had been some time in a bad state, if one of its agents named François Martin, had not collected the wrecks of the colonies of Ceylon and St. Thomé, composed of 60 Frenchmen, to people the small town of Pondicherry, which as well as the surrounding territory, he had purchased in 1674 with the funds of the Company, from the Governor of Gingee, who had the supervision of all Sevajee's conquests in the Carnatic. The country was, however, nominally subject to the Decanee king of Beejapore. Martin fortified Pondicherry, and by his excellent administration this little colony prospered and soon gave the best hopes.

The Dutch attacked it in 1693; Martin, after defending himself there with great courage, was compelled to capitulate, and on the 5th September 1693, the town was given up. By the treaty of Ryswick, Pondicherry was restored to the French in 1697, who received it from the hands of the Dutch, in a much better state than when they gave it up to them.

In 1699, this town became the Capital of the French possessions in India. The wise and able administration of Martin, succeeded in making it the centre of a rich commerce, and one of the most important towns which Europeans possessed in Asia.

A number of Frenchmen soon spread themselves on the Indian Continent, and formed new Factories.

Chandernagore in Bengal, was ceded by Aurungzebe to the French East India Company, in 1688.

In 1727, this Company obtained the cession of Mahé.

In 1739, it purchased Karical from the king of Tanjore, and in 1752, Yanam and Masulipatam, which the French had two years before seized, were definitely ceded to them.

The Governors General of the French establishment in India, Messieurs Dumas and Dupleix, contributed greatly from 1735 to 1754, to the prosperity of these interesting Possessions. Amongst other advantageous concessions, M. Dumas obtained from the Great Mogul, the privilege of coining money at Pondicherry, which gave to the Company a yearly income of about 500,000 livres, (20,000£). M. Dupleix appointed in 1730 Governor of Chandernagore, succeeded in

less than twelve years, in making it a place of great commercial importance. The town of Pondicherry, the Government of which was confided to the same gentleman in 1742, together with that of the other establishments, was equally indebted to him. It was under his government that the French Possessions and power in the East Indies attained their highest growth. In 1744, war broke out between France and England, and in 1746, Madras was taken by La Bourdonnais, who handed it over to Dupleix.

On the 26th August 1748 Admiral Boscawen besieged Pondicherry with an army of 3,720 Europeans and upwards of 2,000 sepoys. The French garrison consisted of 1,800 Europeans and 3,000 sepoys. In October the English were obliged to raise the siege having lost 1,065 Europeans.

In the same year occurred the peace of Aix la Chapelle, but it did not put an end to hostilities in India; and in the year 1754 the Government in England prevailed on the French Government to enter into arrangements for terminating the war between their respective companies in the Carnatic. As Dupleix's character was too well known to entrust any such pacific operations to him, M. Godehen was sent from France with powers as Governor General of the French Settlements, with whom the English empowered Mr. Saunders the Governor of Madras to treat; M. Dupleix then returned to France. The treaty was little more than a cessation of hostilities for eighteen months, for it was conditionally subject to the confirmation of the Governments in Europe. In the meantime the French were left to enjoy the territories they had acquired during the war. Their income was, from Karical and other villages in Tanjore 96,000 Rs., from Pondicherry where they had 80 villages 1,05,000 Rs., from Masulipatam and its dependencies together with the island of Deevy, Nizampatam, Devicotta and Condavir 1,441,000 Rs., from Ellore, Mustaphanuggur, Rajahmundry and Chicacole 3,100,000 Rs., from lands in the Carnatic, south of the river Palār 1,700,000 Rs., from Seringham which Mahomed Ali had given to the Mysoreans for their assistance, and which the Mysoreans transferred to the French, 4,00,000 Rs., Total 68,42,000 Rs. The accessions which the English had made during the war to the usual incomes of their coast settlements were only 8,00,000 drawn annually from lands lying to the north of the Palār mortgaged by the Nawaub to reimburse the English Government for their military expenses on his account.

M. Godehen returned to France in 1755 and left the Government of Pondicherry in the hands of M. Delezrit.

In 1757 the war re-commenced, and in that year a large armament arrived from France with the Marquis de Soupires who as Major General took command of all military operations, but interfering as little as his predecessors with M. Bussy's proceedings in the Deccan.

In 1758 another powerful reinforcement arrived from France, with the celebrated Count de Lally who assumed the functions of Governor General, and lost no time in attacking the English settlement of Fort St. David which surrendered and was totally destroyed. In January 1761 Colonel Coote took Pondicherry after a gallant defence by Lally, and razed the fortifications to the ground. The French garrisons of Ginjee and Tiagar then submitted.

The total number of European military in Pondicherry was 2000, and civil inhabitants 380. The artillery fit for service 500 pieces of cannon and 100 mortars and howitzers. Arms, ammunition and stores in abundance.

By the peace of Paris in 1763, Pondicherry was restored to the French, but with a territory less extensive. Mahé, Karical, Chander-nagore, and other factories in Bengal, were in like manner restored, but they were not occupied before 1765.

Fifteen years of peace did much for the town of Pondicherry. The withdrawal of the monopoly from the India Company in the month of August 1769, and the opening of the trade to all French subjects, contributed greatly to benefit the place. Pondicherry again fell into the hands of the English in 1778. Sir Hector Monro was the English commander; and the Governor was M. de Bellicombe, who made an obstinate defence. The garrison consisted of 3,000 men of whom 900 were Europeans; the besieging army of 10,500 men of whom 1,500 were Europeans. The town was again restored with the other establishments, by the treaty of peace of the 20th of January 1783; but ten years after this on the breaking out of hostilities they were again in the possession of the English; the treaty of Amiens in 1802 restored them to their former masters, but for a very short time, and in 1803, Pondicherry was once more under British dominion. In 1803 the inhabitants were estimated at 25,000, and the revenue at 40,000 pagodas. On the treaty of Amiens, Napoleon had formed a plan of raising Pondicherry to a place of importance. He sent out under General de Cuen seven Generals and a large number of officers and troops.

The treaties of peace in 1814 and 1815, restored to France her Indian establishments,* but reduced to the narrow limits which had been assigned to them by the treaty of peace of 1783.

II.—TOPOGRAPHY.

The French establishments in India are :

1. Pondicherry, and Karical on the Coromandel Coast.
2. Yanam and the lodge† of Masulipatam on the Orissa Coast.
3. Mahé and the lodge of Calicut on the Malabar Coast.
4. Chandernagore and the five lodges of Cossimbazar, Jougdia, Dacca, Balasore and Patna in Bengal. The possession of these lodges is however nominal, and they have been even abandoned by the French since about 1830.

The superficies of the united territories of these different establishments may be estimated at 121,000 acres.

* By the 12th Article of the treaty of Paris of the 30th May 1814, France engaged herself 'not to erect any fortifications in the places which were to be restored to her, and which are situated in the limits of the British Sovereignty on the continent of India, nor to place in these establishments more troops than are necessary for the maintenance of the police.'

By the same Article, England is, on her side, engaged 'to permit the enjoyment to all his most Catholic Majesty's subjects, relative to commerce and security of their persons and properties within the limits of the British Sovereignty on the continent of India, the same facilities, privileges and protection which are at present enjoyed or may be accorded to the most favored nations.'

By the 8th Article of the convention concluded on the 7th March 1815, between France and England, relative to the commerce of salt and opium in India, England has further engaged herself, that in case there should happen any cause of misunderstanding or a rupture, first not to consider or to treat as prisoners of war, the persons who form a part of the Civil Administration of the French Establishments in India, or the officers, sub-officers, or soldiers, who by the forms of the treaty concluded at Paris on the 30th May 1814, should be necessary to maintain the police in the said establishments, and to accord them a delay of three months to arrange their personal affairs, as also to furnish them with the necessary facilities and the means of transport to return to France with their families and their property. 2dly, to accord to the subjects of His Majesty in India the permission to continue their residence and their commerce as long as they conduct themselves peacefully and do nothing contrary to the laws and regulations of the Government.

By the 1st Article of the convention of 7th March 1815, the king of France engages to farm to the British Government in India the exclusive right to purchase at a fair price the salt that may be manufactured in the French possessions, subject to a reservation of the quantity required for the consumption of those territories both in Madras and Bengal: by Article 4th the British Government engage to pay four lacs of Sicca Rupees annually for this concession.

Subsequently a further engagement dated 13th May 1818 was entered into, by which it was agreed that no salt at all should be allowed to be manufactured in the French territories, the British Government to supply all that was required for consumption at cost price, and pay 14,000 Rs. annually as a compensation to the French salt manufacturers; besides the four lacs before mentioned. The French take about 1,256 garce per annum, some of which is for curing hides. The cost price is about $14\frac{1}{2}$ Rs. in addition to $5\frac{1}{2}$ Rs. half share of shipping charges.

† The name of lodge or "comptoir" is given to factories or isolated establishments comprehending one house with the adjacent grounds, where France had the right to have her flag flying, and to form factories, &c.

Pondicherry,

Is situated on the Coromandel Coast in $11^{\circ} 56'$ of N. Latitude, and in $79^{\circ} 52'$ of E. Longitude G. M. It is 98 miles from Madras, and is the capital of the French establishments in India and the residence of the Governor; the town is regularly built and is divided into two parts, the "white town" and the "black town" which are separated by a canal. To the east, and on the sea side is the "white town"; its streets lined with trees are regularly laid out and cut each other at right angles and the houses are good and well built. To the west is the "black town" inhabited by the Natives. There does not exist any remarkable edifice at Pondicherry except the Church of Foreign Missions and the Government House; there are a beautiful "place" and very fine "boulevards" planted with trees. The bazaars which were constructed in 1827 also merit to be mentioned. The town has no port, but an open roadstead, which however is superior to that of Madras. In the first place it is to windward for nine months of the year; in the second there is much less surf, so that ships' boats can often land; and thirdly, there is a river disemboguing into the sea at this port, which is very useful although the bar can only be passed by flat bottomed boats.

The population of the town according to their "annuaire" of 1854, is 1,641 Europeans and 95,075 Natives. Total 96,716. The principal places of worship now in use are, Church of the Jesuits, and the larger but less showy Church of the Capuchins, which belonged to the monastery of that order destroyed by the English. The buildings of the ci-devant Jesuit's college are now occupied as dwelling houses by the bishop and clergy. The light house 131 feet high is worthy of notice.

The territory of Pondicherry is divided into three districts, viz. :

1. The district of Pondicherry, properly so called, containing besides the town eleven villages.
2. The district of Vallanore which contains 45 villages.
3. The district of Bahour which contains 36 villages.

These 92 villages are not all contiguous to each other, several are separated by English villages, some of which are situated at a very short distance from Pondicherry. This intermixture of territory has been felt to be very prejudicial to agriculture and troublesome for police purposes. For some years past some arrangements has been in

contemplation to render the territory belonging to each power respectively more compact. The coast board of the settlement is about five miles, and its breadth from three to four miles.

The total superficies of the three districts, forming the territory of Pondicherry is estimated in round numbers at 69,000 acres which, in consequence of the parcelment of which we have above spoken, is scattered over a space of about 173,000 acres.

These (69,000 acres) were appropriated in the following manner on the 1st January 1836 :—

Cultivations of various sorts.....	26,200 acres.
Grain.....	17,970 „
Woods.....	6,170 „
Fallow land.	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle; font-size: 3em; line-height: 1;">{</div> <div style="display: inline-block; vertical-align: middle;"> Occupied by houses..... 1,580 „ Waste lands..... 10,200 „ Public estates..... 6,880 „ </div> </div>
Total.....	<u>69,000</u>

The coast is flat and sandy. The soil in this district is composed in part of argillaceous earth, more or less mixed with sand, and in part of very light sandy earth. These different sorts of earths only become productive from constant irrigation.

One river only traverses the territory of Pondicherry, it takes the name of Gingy or Ariancoupam, which is, that of a village situated near its mouth. It has its source at about 62 miles in the interior, and is only navigable during four months in the year, and only then for small flat bottom boats. A canal for the conveyance of the waters of the Gingy was constructed a few years ago, it traverses nearly the whole of the territory of Vallanore; a rivulet called Condouv  ar is after the Ariancoupam river, the only water-course in the territory of Pondicherry, which deserves to be mentioned.

In the three districts, there are 60 artificial tanks of various sizes. The two most considerable are situated in the districts of Vallanore and Bahour. The first is 1,852 acres in superficies, of which one-third is in the English territory, and the second is 1,730 acres. These two tanks and especially the first, are very valuable for the irrigation of the lands in their vicinity. There are eleven principal springs, which also furnish the cultivator with the means of irrigation.

Karical

Is situated on the Coromandel Coast, in the province of Tanjore in $10^{\circ} 55' N.$ Latitude, and $79^{\circ} 44' 16'' E.$ Longitude, G. M., at about 6 miles to the south from the Danish Settlement of Tranquebar. It stands about one mile and a half from the mouth of one of the branches of the Cauvery, which takes the name of Arselar, and of which the course is about 26 miles. This embouchure is entirely obstructed during the dry season, no vessel can then pass it, but when the rains swell the waters of the Cauvery, the bar of sand formed at the mouth is removed, and the navigation remains open from the month of August, to February and March; small vessels flat bottomed can then take in cargo off the town.

The territory of Karical is divided into five districts containing 108 villages, the principal of which are Karical, Tirnelar, Nellajendoor, Nedoogadoo and Kotchery.

The total superficies of the five districts is 39,985 acres which were thus divided on the 1st January 1836 :—

	Acres.
Cultivated lands.....	21,030
The villages of concession*....	1,512
Rice grounds.....	3,010
Land uncultivated for want of water....	4,340
Woods and thickets.....	208
Salt marshes.....	87
Lands uncultivated, occupied by habitations....	2,230
Public lands.....	7,568

The soil of Karical is very fertile, particularly that of the four districts of Tirnelar, Nellajendoor, Nedoogadoo, and Kotchery. It is watered by six small rivers, which are as many branches of the Cauvery. These rivers periodically overflow their banks, thus fertilizing the country they spread over; fourteen principal canals and their branches afford the necessary means of irrigation to cultivation.

Yanaon or Yanam.

The factory of Yanaon is situated in $16^{\circ} 43' N.$ Latitude, and $33^{\circ} 11' 16'' E.$ Longitude, G. M., at about 24 miles south-east of Rajahmundry. Built on the spot where the river of Coringa and

* The villages called of concession are lands held under different titles, some paying no rent, others a duty or quit rent in money. These lands are perfectly cultivated and are very productive to their proprietors. They are equivalent to what are termed Enam lands in the English districts.

the Godavery separate, the town is bounded on the east and south by one and the other of these two rivers.

The territory dependant on it extends along the Godavery, to the east and west of the river Coringa, for a length of about 6 miles; in breadth it varies from 390 yards to $1\frac{3}{4}$ mile. The Godavery discharges itself into the sea at 9 miles south of the town of Yanaon. Its mouth is obstructed by sand banks, which prevent the entrance of ships. The Coringa river, which also disembogues itself into the sea, has, on the contrary, a deep bed which at spring tides allows vessels of 350 tons to ascend it as high as the English establishment of Coringa, and those of 200 tons, to proceed as far as Yanaon.

The total superficies of the territory of Yanaon is 8,147 acres, which were divided in the following manner on the 1st January 1836:—

	Acres
Land under cultivation.	4,310
Woods and forests.	862
Waste and uncultivated land.	215
Public estates.	2,760
	<hr/>
Total.	<u>8,147</u>

The soil is sufficiently fertile, and abundance of rice is cultivated.

Lodge of Masulipatam.—Of the extensive French territory, of which the city of Masulipatam was formerly the capital, there only remains to France, at present in the city, one lodge, with a right of hoisting the French flag there. This lodge is not occupied at present by any Frenchmen. The chief of the factory of Yanaon places there only a Native overseer with an assistant.

A village named Francepett, situated about 2 miles to the north-west of Masulipatam, and two pieces of land, of which one is situated about one mile from the same city, depend on the French lodge at Masulipatam. (Vide Masulipatam.)

Mahé.

The factory of Mahé is situated in the district of Malabar, in $10^{\circ} 42'$ N. Latitude, and $75^{\circ} 38' 16''$ E. Longitude, G. M. The town is situated on the coast on the right bank, and close to the mouth of a small river navigable for boats of 60 and 70 tons, to a distance of two or three leagues into the interior. The entrance to this river is

closed by rocks ; and ships, however small they may be, cannot enter it. Nevertheless as it is deep at its mouth, labour and skill could, no doubt, remove the obstacles.

The total superficies of the actual territory of Mahé, such as was restored to the French in 1817, is 1,445 acres, divided in the following manner :—

	Acres
Lands under cultivation.	1,329
Public lands.	116
Total.	<u>1,445</u>

The Factory at Calicut.—At a distance of 30 miles S. S. E. of Mahé, and on the same coast, is found the Indo-English town of Calicut, where France possesses one *lodge*. This lodge is only occupied by a watchman.

Chandernagore

Is situated in Bengal, in 22° 51' 26" N. Latitude, and 88° 29' 36" E. Longitude, G. M. Built on the right bank of the Hooghly, at about 20 miles above Calcutta, Chandernagore stands at the end of a beautiful reach formed by the river. The town is small, its few streets are generally regular, some of the houses on the river side are not without elegance.

The territory of Chandernagore, of which the superficies is reckoned about 2,330 acres, encloses a few small villages.

Lodges of Balusore, Dacca, Cossimbazar, Patna and Jougdia.—These five lodges are no longer occupied.

Factory of Surat.—This factory, situated in the Indo-English town of the same name in 21° 11' N. Latitude, and 73° 7' 11" E. Longitude, was occupied in 1819, by a French agent, who died in 1823, and who has not been replaced on account of the total cessation of the commercial relations which France had formerly with this country. One or two watchmen only occupy it at present.

The French have also a factory at Muscat, and another at Mocha, but of no importance whatever.

III.—POPULATION.

The population of the French establishments in India is composed :

1st. Of Europeans and descendants of Europeans.

2nd. Of Topasses or persons wearing hats, a mixed population, arising from the union of Europeans, and particularly Portuguese, with the Native women ; or of Indians who have renounced their caste.

3rd. Of Indians or free aborigines.

Notwithstanding some slaves are to be found in the French establishments of India, the number is not known, but is, and has always been small, although slavery existed legally in French India, as in other colonies. This number, nevertheless, is diminishing daily.*

The Native population of the French establishments resemble so completely that of the surrounding British territories, in manners, customs, religion and sect, that it is unnecessary here to enter into any particular details.

In 1840, the total population of the French establishments in India was reckoned at 171,217 individuals.

IV.—GOVERNMENT AND ADMINISTRATION.

The organization of the Government and administration of the French establishments in India have been provisionally regulated in its details by various local acts, made in conformity to Ministerial instructions and orders addressed at different periods to the Government at Pondicherry. The Governor of Pondicherry has a council, consisting of the *Ordonnateur*, the *Provenseur Général*, and the *Contrôleur Colonial*. The heads of the Church are the Bishop of Drusipare, and the *Préfet Apostolique*. Justice is administered by two Courts, viz., the *Tribunal de première instance*, and the *Court Imperiale* ; the latter is a Court of Appeal. The Police duties are carried on by two *Juges de Paix* and an Inspector : the senior Magistrate is termed *Commissionaire de Police*.

The administrators (*chargés du service*) of Chandernagore, Karical, Mahé and Yanaon, are placed under the authority of the Governor, who resides at Pondicherry, and to whom is confided the general Government of the French Possessions in India.†

* The first Article of the resolution of the representative Colonial Assembly of the French establishments in India, dated 16th October 1792, directs " that from the 1st November 1792, it is forbidden to all Frenchmen, strangers of the country or Natives to purchase or offer for sale, to sell or export any person of either sex of whatever Asiatic nation or Indian caste he may be, in the French establishments in India ; and to Notaries and others to make out deeds ; it is not intended to comprise in the limits of the present article the slaves acquired before the named day, the 1st November 1792, of whom the proprietors will be free to dispose "

† By an Ordinance of the King of the French, dated October 31, 1840, the salaries and emoluments of the principal functionaries of the French establishments in India are fixed as follows —The Governor of the Colony is to have 40,000 f a year, without any other emoluments than a free residence in the Government House at Pondicherry, the furniture

They receive their orders from him and render him an account of their acts.

The Governor can call to the Privy Council any of the public functionaries or such of the inhabitants as may appear able to enlighten his deliberations.

Troops.—Two companies attached to the 1st Marine Regiment of Infantry, are divided amongst the French establishments in India; they consist of 276 non-commissioned officers and privates, who are commanded by six European officers.

Church.—There existed formerly in the French establishments in India, two distinct Ecclesiastical Missions, the Mission of Capuchins, and the Malabar Mission.

The Mission of Capuchins was charged with the ordinary service of worship, and formed the true colonial clergy, and the Mission of Malabar instituted for the conversion of the Natives, was intrusted to the association of "*Missions Étrangères*."

The Mission of Capuchins ceased to exist at Pondicherry at the time when the religious congregations were suppressed in France; and since that period the clergy is composed of a mixture of Ecclesiastics belonging to the Missions of Italian and Portuguese Capuchins or to the association of the French "*Missions Étrangères*." The Superior of the French "*Missions Étrangères*" in India resides at Pondicherry, (where an Apostolic Préfet has been instituted), and has now the title of the Bishop of Drusipar.

V.—GENERAL LEGISLATION.

The French establishments in India, continue to be governed by warrants from the emperor.

The civil code, the code of civil procedure, the commercial code, and the penal code, have been promulgated at Pondicherry by a local Act, dated the 6th January 1819. The orders respecting the criminal code were promulgated there by a local resolution, dated the 21st April 1825, with modifications on certain points, of which the most important concern the court of assizes and the jury.

The laws to be followed for the acceptance of gifts and legacies, in

being provided at the expense of the colony. Chefs du service of the different establishments are to be paid as follows:—for Chandernagore, 16,000 f a year, Karical, 10,000 f., Yanaon, 8,000 f., Mahé, 8,000 f. The Commissary of Marine, who is chief of the administrative department, 12,000 f., the Procureur-general, 12,000 f., the Colonial Inspector, 8,000 f., the Secretary Archivist, 4,000 f., all these functionaries are to have furnished houses, free of rent, without other emoluments. The Governor is allowed 12,000 f. for his outfit.

favor of the Church, of the poor and the public establishments, are determined for India, as for the other colonies.

A royal "*ordonnance*" authorises the Government to decree on the acceptance of gifts and legacies, to the value of 3,000 francs.

VI.—JUDICIAL ORGANIZATION AND ADMINISTRATION OF JUSTICE.

The Judicial organization and administration of justice in the French establishments in India, are at present regulated by Royal ordinances.

In the actual state of things, justice is rendered in French India by one Royal Court, tribunals of the first instance, and tribunals of peace.

The Privy Council of Pondicherry takes cognizance as Council of Debates, on all affairs which fall under the head of debates.

The Justice of Peace and Tribunal of Police have been organised in the secondary establishments by various local acts, and in the last place by orders bearing date 20th August 1830, for Chandernagore; 23d October 1827, for Karical; 2d February 1829, for Yanaon. Whilst for Mahé, it has been established since its re-occupation.

By a local Act of the 3d October 1827, a Consultative Committee of Indian Jurisprudence was created at Pondicherry. The object of this Institution was to collect information respecting the laws and customs of the Natives.

VII.—FINANCES.

Formerly the sale of salt was free in the French establishments, and the monopoly of the manufacture of opium and the exportation of saltpetre formed branches of the public revenue. France enjoyed this monopoly in virtue of concessions made to her by the Princes of the country, and exercised it at the breaking out of the war in 1778. Various changes occurred in these matters, but they stand fixed by the Convention of the 7th March 1815, as follows:—

1st. That France should have 300 cases of opium, at the average price brought at the periodical public sales at Calcutta.

2nd. That in compensation for the exclusive privilege made over to the English Government, to purchase at a fixed price the salt in excess of the wants for the consumption of the French establishments in India, they should annually receive, at Madras or Calcutta, the sum of four lacs of rupees.

3rd. That France reserves, as formerly, the right to export annually from Bengal as much as 18,000 maunds of saltpetre.

The French sell annually to the highest bidder the privilege which they possess with regard to opium.

With reference to the salt, instead of making the salt, and delivering to the English all that exceeds the local home consumption, an arrangement was entered into between the Government of Pondicherry and that of Madras on the 13th May 1818, by which the French renounced for 15 years the right to make salt for the following considerations :—

1. An annual indemnity of 4,000 Pagodas to be divided between the proprietors of the former salt pans of Pondicherry and Karical.

2. An arrangement entered into by the English Government to deliver at the making price, the quantity of salt required for the use and consumption of the inhabitants.

This Convention having expired on the 18th of May 1833, it has been settled between the two Governments, that it should continue in force without further renewal, leaving it, however, at the option of either party to annul the engagement at any time.

Personal Expenditure.

	Francs	c	Co's Rs.
Colonial Government.....	80,826	00	32,330
Marine Department.....	93,035	18	37,215
Duties of the Port.....	6,284	62	2,514
Board of Health.....	21,471	52	8,538
Public Instruction.....	29,516	56	11,806
Financial.....	67,720	36	27,089
Church.....	9,222	72	3,638
Judicial.....	126,130	68	50,452
Police.....	34,402	18	13,760
Bridges and Canals.....	20,700	60	8,280
Jails, &c.....	15,949	19	6,380
Divers Agents.....	15,168	80	6,068
Expenses resembling pay.....	28,000	00	11,200
Pay to the two companies of troops.....	90,366	71	36,146
Hospitals, Medicines, &c., for the poor and prisoners.....	4,100	00	1,640
Rations given to Invalid Sepoys employed on duty.....	900	00	360
Total.....	<u>643,794</u>	<u>71</u>	<u>257,516</u>

Labour and Supplies

Labour and Stores.....	99,000	00	39,600
Stores and work, separate from those for the public works.....	18,140	00	7,256
Purchase of lands, rent for establishments, and houses.....	26,251	97	10,500
Transport charges.....	6,370	00	2,548
Total.....	<u>149,761</u>	<u>97</u>	<u>59,904</u>

Divers Expenses.

Transport of letters and journals	3,727	40	1,490
Lighting up the " <i>corps de garde</i> ," prisons, and light-house at Pondicherry.	2,688	50	1,076
Judicial charges, &c., prison fees, &c.	12,347	73	4,939
Relief and compensation to many.	77,423	13	30,970
Encouragement to cultivation and industry	18,000	00	7,200
Supplies in favour of different establishment of utility, &c.	11,389	83	4,555
Sundry expenses.	70,390	73	28,156
Total	195,967	32	78,386

General Expense for 1838.

	Francs	c.	Rupees.
Personal.	643,794	71	2,57,518
Matériel.	345,729	29	1,38,291
Total	989,524	00	3,95,809

The following Table gives the detail of local receipts for 1838, for each of the Establishments.*

Nature of receipts.	Pondicherry.	Chander-nagore.	Karical.	Mahé.	Yanaon.	Total.
DIRECT CONTRIBUTIONS.†	<i>f.</i> <i>c.</i>			<i>f.</i> <i>c.</i>		<i>f.</i> <i>c.</i>
Tax on Houses †.....	.....	.....	.....	579 10	.....	579 10
Various petty taxes.....	5,776 67	†.....	.....	257 14	876 44	7,010 13
Total.....	5,776 51	.....	.....	936 12	876 45	7,589 14
INDIRECT CONTRIBUTION						
Various duties received by the Registrar of the Tribunals, (as fiefs and Manorial duties, duty on the sale of moveables, duties on civil questions, and surmons in criminal cases).....	<i>f.</i> <i>c.</i>	<i>f.</i> <i>c.</i>	<i>f.</i> <i>c.</i>	<i>f.</i> <i>c.</i>		<i>f.</i> <i>c.</i>
Manifest, Anchorage and Light House duties	6,470 08	1,711 20	2,143 90	119 66		10,444 84
Tax on liquors (Arrack farm, &c &c.).....	7,749 20	.. ..	531 62	142 72	.. ..	8,423 54
Duty on letters, and tax on passports	79,926 00	.....	14,092 90	670 08	5,148 00	99,836 98
Various Monopolies (farm for the sale of Salts, of Betel, Bang, Ganja, &c.)	499 35	.....	.....	.....	.....	499 35
Government privilege on the purchase of the 300 cases of Opium... ..	117,290 00	66,000 00	35,212 80	1,584 00	4,228 80	224,315 60
Various indirect duties, stamps, measures of grain, rights of passage across rivers, fisheries, &c. . .	.....	18,438 70	.....	.....	.....	18,438 70
Total.....	7,503 20	.....	4,485 60	1,780 00	633 60	14,402 40
Total.....	219,437 83	86,149 90	56,466 82	4,296 46	10,010 40	3,76,361 41

* The current value of the Company's Rupee, may be rated at 2 fr. 50 c., the intrinsic value is 2 fr. 41 c

† At Mahé houses and other unmoveable property do not pay any impost, land, &c. sell more advantageously there than in the English territories

‡ All the various petty taxes, &c. for this place are included under the title of "general farm of rights and revenues at Chandernagore" under the head "Estates, and Land Revenues."

ESTATES AND MANORIAL RIGHTS.	Pondicherry.		Chander-nagore.		Karical		Mahé		Yanaon		Total.	
	f.	c.	f.	c.	f.	c.	f.	c.	f.	c.	f.	c.
Territorial duty	281,902	86	..	..	159,991	04	2,178	56	7,464	00	451,536	46
Locations .....	..	..	1,157	87	..	..	2,000	..	..	..	3,481	87
Various Manorial rights, produce of fruit trees, &c.	1,000	00	..	..	170	40	..	..	..	..	1,170	40
General farm of the rights and revenues of Chandernagore .....	..	..	54,762	30	..	..	..	..	..	..	54,762	30
Total	282,902	86	55,920	17	160,485	44	4,178	56	7,464	00	510,951	03
VARIOUS RECEIPTS.												
Fines and confiscations	1,774	05	1,478	58	519	02	84	77	150	00	4,006	42
Magisterial orders.	100	00	..	..	..	..	..	..	..	..	100	00
Price of works printed in French and Malabar at the Government Press	150	00	..	..	..	..	..	..	..	..	150	00
Total	2,024	05	1,478	58	519	02	87	77	150	00	4,256	42
GENERAL RECAPITULATION												
Direct contributions	5,776	57	..	..	..	..	936	12	876	45	7,589	14
Indirect contributions	219,437	83	86,149	90	56,466	82	4,296	46	10,010	40	376,361	41
Estates and Land Revenue	282,902	86	53,920	17	160,485	44	4,178	56	7,464	00	510,951	03
Various receipts	2,024	05	1,478	58	519	02	84	77	150	00	4,256	42
Grand Total ..	510,141	31	143,548	65	217,471	28	9,495	91	18,500	85	899,158	00

VIII.—PROPRIETARY RIGHTS—CULTIVATION, &c.

All the lands in the Pondicherry territories are the property of the Sovereign, but at Karical the lands are the sole property of those who possess them.

On the 1st January 1836, there were about 52,885 acres (21,410 *hectares*) of land under cultivation, divided as follows:—

[One *Hectare*, a French land measure, is equal to 2.47 acres *English*.]

Names of Establishments.	No of Hectares of cultivated land	NO OF HECTARES OF UNCULTIVATED LAND					Superfices of the Establishment in Hectares.	
		Woods and Forests.	Uncultivated for want of water.	Fallow lands.	Depo. on Public Estates.	Total of uncultivated land.		
Pondicherry.	Pondicherry & its villages,	2,758	2,235	398	955	211	3,799	6,557
	Villanore do	4,522	194	4,530	1,907	1,599	8,230	12,752
	Bahour do	3,333	72	2,353	1,910	976	5,311	8,644
	Total . . .	10,613	2,501	7,281	4,772	2,786	17,340	27,958
Chandernagore. .	...	...	...	...	...	...	...	942
Karical	8,514	84	2,974	1,549	3,063	7,670	16,184	
Mahé	538	...	...	...	47	47	585	
Yanaon.	1,745	349	...	87	1,117	1,553	3,298	
Grand Total.	21,410	2,934	10,255	6,408	7,013	26,610	48,962	

Rice and small grain are the principal, and nearly the sole articles of cultivation.

Indigo is the next thing the Natives give a preference to. On the 1st of January 1836, there were 38 Indigo factories in the Pondicherry territories, and 3 in that of Karical; the average produce of these factories for the two preceding years, were 15,653 kilogrammes of 2.2 lbs. each.

IX.—MANUFACTURES, &c.

The spinning of cotton, and above all, the fabrication of cotton thread, are the only manufactures which are of any importance in the French establishments.

Various descriptions of cloth are made at Pondicherry and the neighbouring villages. The Ariancoopum river and some springs in that district furnish excellent water for dyeing. The blue cloths of Pondicherry are held in great esteem, and large quantities of white cloth are sent there to be dyed.

A handsome spinning machine, (the machinery having been sent from France), has been erected at Pondicherry, in which a large body of people find employment. Its cloth, manufactured from the thread

made at this establishment, are much esteemed, and obtain higher prices than the same sort made elsewhere.

The value of the different cottons exported in 1835, amounted to 2,653,401 francs, but of the above amount one-eighth only is the value of the cloths made at Pondicherry, the remainder is for cloths brought from the English territories. The same may be said of Karical, where cloths of the same description as at Pondicherry are manufactured, and from whence, in 1835, the exports amounted to 557,249 francs.

There are docks at Karical, where a number of small craft are built; and even vessels of 250 and 300 tons are sometimes built there.

The cloths of Yanaon are also good, but the raw materials are in the first instance, drawn from the British territories, where a duty is levied, which weighs heavily on this branch of manufacture. In 1835, the value of cloths exported from Yanaon amounted to 43,201

X.—COMMERCE.

The commerce of India within itself was at one period of great advantage to the French, and rendered Pondicherry a flourishing place; but the English East India Company, in consequence of the privileges obtained by it, fixed too high a duty on all that is imported into the British possessions from those of the French, and especially such as is conveyed in French vessels, so that commerce in these establishments is at a stand. No modification was made by the navigation treaty concluded on the 26th January 1826, between England and France.

Anterior to 1826, the commercial relations of Pondicherry with Bourbon, afforded the former a profitable trade in blue cloths, soap, candles, &c. But the 20 *per cent.* duty ordered from home, to be collected on cloths at Bourbon, have put a stop to the trade. The measure alluded to was adopted to advance the commerce of the mother country, but experience has proved that the cotton cloths imported to Bourbon from India, intended for the clothing of the blacks, are an object of primary importance to that colony, and which cannot be replaced by any cloth manufactured in France, whilst it is in no way benefited to the industry of the metropolis, the cotton produce of which is also burthened with heavy duties. The Government, how-

ever, is at present occupied in finding some means to modify this act of the legislation.

With the exception of the above articles, and some other products of India, such as silk, (not raw), silk stuffs, Cashmere shawls, tissues of hair and wool, porcelain, earthenware, paper, and hats of straw and silk, the admission of which in Bourbon is prohibited, the merchandise of India which is imported there on French vessels, pay a duty of 6 per cent. on their value ; but rice, wheat, grains, woods for naval or civil purposes, animals, gold and silver, are admitted into the island free of all duties.

The imports from Bourbon to Pondicherry in 1835, amounted to 28,459 francs, and the exports from the French Settlements amounted to 1,084,558 francs.

The commerce between India and France is necessarily confined to such articles as are necessary for home consumption or home manufactures, and which in Europe cannot be otherwise obtained in sufficient quantities, or at equally moderate prices, such as spices, raw silks, fine wools of Cashmere, pewter, lac, sandal wood, opium, indigo, camphor, benzoin, &c. The French establishments cannot of themselves furnish but a very small quantity of these articles, which are almost impossible to be obtained from the British establishments, in consequence of the duties fixed on them by the East India Company. On the other hand, the Government refuse to admit into France the manufactures of their establishments at a cheap rate, these are only received in the French ports as an "*in entrepot*," and the blue cloths sent from Pondicherry, have no other exit, than their re-exportation, which is chiefly made to the west coast of Africa, where articles to the value of two millions of francs are annually sent.

In consequence of this state of things, the exports into the French establishments from France, do not amount to much, and do not exceed the exports.

Since the last repossession of their establishments by the French, their ports have been exempted from import or export duties. The home Government have not thought proper to put in force, in these establishments, the exclusive regulations to which the commerce of the other French colonies are subjected. The following is a table

showing the commerce of the French establishments in India with France, from 1821 to 1836.

Years.	Importation from the French Establishments to France.	Exportation from France to the French Establishments.	Total.
	SPECIAL COMMERCE.		
1821	3,519,295 fs.	853,543 fs.	4,372,838 fs.
1822	4,274,106	694,588	4,968,694
1823	5,603,651	319,907	5,923,558
1824	4,564,621	388,459	4,953,080
1825	6,508,089	775,885	7,278,924
1826	8,875,806	989,286	4,864,592
1827	4,099,244	1,035,026	5,134,270
1828	3,537,120	473,863	4,010,983
1829	576,054	1,405,138	1,981,192
1830	2,105,150	43,567	2,148,717
1831	2,511,913	92,940	2,004,833
1832	512,510	30,092	542,602
1833	119,403	135,037	253,440
1834	654,506	276,491	930,997
1835	167,601	283,201	450,802
1836	353,866	231,694	585,560
Average of 16 years.	2,686,086	501,794	3,387,880
	GENERAL COMMERCE.		
1825	10,540,584 fs.	813,003 fs.	11,353,589 fs.
1826	4,805,828	1,002,346	5,808,174
1827	4,208,533	1,016,403	5,224,936
1828	4,654,920	470,191	5,135,111
1829	926,962	1,013,586	1,940,548
1830	5,274,792	6,435	5,281,227
1831	3,723,270	129,721	3,852,991
1832	397,580	91,696	489,276
Average of 12 years.	3,443,029	457,745	3,900,274

MONIES, WEIGHTS, AND MEASURES.

Formerly there was a Mint at work at Pondicherry, which was established in 1836, and where Rupees and Fanams were coined from Piastres.

From 1817, the period of its re-establishment, to 1830 when its working was temporarily suspended, the average profit was 8,812 fs. yearly.

In 1830, it was obliged to suspend its *operations*, in consequence of the decrease of its profits, arising from the non-receipt into the British treasuries of the monies coined at Pondicherry, as well as the high rate demanded for the Piastres.

But in consequence of the temporary closing of the Madras Mint, the Mint at Pondicherry was again put into operation in 1837, and 150,000 Rupees were coined during the first month, but on the re-opening of the Madras Mint, this activity diminished.

The coins used and received are similar to those in circulation in other parts of India.

XII.—ESTABLISHMENTS OF PUBLIC UTILITY.

Schools.—There are ten establishments of public instruction in the French establishments, viz., at Pondicherry a school where English, Hindoostanee and Malabar, are taught to young Europeans, who are admitted into the service afterwards. A College, under the charge of the Missionaries, where Reading, Writing, Grammar, Rhetoric, Latin, English, Hindoostanee, Malabar, Arithmetic, Geometry and Drawing, Geography and History, are taught. There are eight Professors or Masters, and 30 or 40 scholars. There are six free scholarships reserved for youths whose parents are too poor to pay for their education.

Further to afford means of instruction to the young *Créoles* of Pondicherry, four scholarships are reserved in the Royal College of France, and bestowed on those who evince the greatest aptitude.

There is a Charity school for Native children of all classes, (Pariahs excepted), and all ages, who are taught Arithmetic, Malabar, Gentoo, French, &c. But that Pariahs, Christians, and Hindoos, may also have the advantage of education, there is a school exclusively for them.

There is also a Military school to teach the sepoys their exercise.

There is a girls' school under the direction of the Sisters of Saint Joseph de Cluny, where every necessary instruction is given to young ladies. Besides this, the sisters have under their charge a Charity

school for the daughters of Topasses, who do not work at the public manufactories.

There is a Charity school for Malabar Christians, Mussulmen, &c., at Karical as at Pondicherry, and one also at Chandernagore.

Workshops.—As the Topasses have not generally the means of sending their children to the College at Pondicherry, it has been thought necessary to establish Charity workshops, which are called “Public Workshops.” Here white or the issue of white persons and Topasses of both sexes, from the age of 10 to 30, who are born or have been domiciled for six years in the territory of Pondicherry, and who find it impossible to find subsistence, are admitted and are set to work on the trade for which they show the greatest aptitude. Children and persons under 20 years of age, are taught to read, &c., in the schools attached to those workshops. The girls’ workshops, &c., are separated from those of the boys, and are under the direction of the Sisters of Saint Joseph de Cluny.

The workmen and women of all classes receive a ration of rice, and a small salary, which varies from 10 to 30 centimes daily. Besides this, three quarters of the net produce of their work (deducting the value of the materials employed) are given to the persons who performed the work. The sick are also rationed and paid during the time they are unable to work.

Hospital.—There is no hospital at Pondicherry, but a house has been established as a dépôt where persons who require to be treated with skill or to undergo operations are admitted.

Botanical Garden.—This garden was prospering some years back, but it was nearly totally destroyed by a storm in 1830, since which the Government have determined to do away with it, as its utility was not equivalent to the expenses required for its re-establishment and maintenance.

Public Library.—A Library was formed at Pondicherry in 1827, and is daily open to the public at certain hours.

Government Press.—There is a Government printing press at Pondicherry, where the public Acts, &c., are printed. Private⁴ can also have works printed there.

TRICHINOPOLY.

AN inland district of the Carnatic, bounded on the north by Salem and South Arcot; east by Tanjore and part of South Arcot; south by the Tondiman Rajah's Territory and Madura; and west by Coimbatore and Salem.

TRICHINOPOLY, Fusly 1260,—Area = 3,243 Square Miles.

Talooks.	Guzbah or principal station.	Number of villages.	Population.	Extent of Land cultivated.			Land Revenue.	Number of Puttals.	Extraneous of Revenue
				Wet and Garden.	Dry.	Total.			
1	2	3	4	5	6	7	8	9	10
1 Conard	Trichinopoly ..	182	1,60,171	32,826	14,003	46,829	Rupees. 2,23,017		Abkary
2 Vitycutty ..	Koolatray ..	91	65,493	15,898	45,242	61,140	1,46,037		Petty Licenses. 4,747
3 Moosery ..	Moosery ..	53	38,437	12,573	20,967	33,540	1,11,630	6,638	Moturpha
4 Laulgoody ..	Laulgoody ..	236	89,986	34,869	19,302	54,171	2,76,375	2,789	Stamps
5 Torriore ..	Gunnalore ..	184	1,24,958	12,664	51,360	64,024	2,50,427	2,372	19,972
6 Woodiarpolliem.	Jaincondashola-pooram ..	367	85,498	5,238	14,607	19,845		8,222	Total.... 55,896
7 Arrialore	Keelapullore ..	263	76,859	3,587	14,503	18,090	1,27,381	18,056	POPULATION.
8 Volcondapoorum	Pambalore	128	67,734	4,143	26,186	30,329	1,35,720	9,611	Hndooos,
							1,49,444	9,020	Mahomedans
								11,547	and others not
									Hndooos....
Total...		1,487	7,09,196	1,21,298	2,06,170	3,27,468	14,20,091	68,255	7,09,196

The chief places are Trichinopoly (to be noticed hereafter), Seringam, Laulgoody, Poovalore, Moosery, Koolitully, Torriore, Arrialore, and Woodiarpolliem. But with the exception of the first two, none of these places has a population of above 5,000 souls. The three last named places were formerly capitals of Polliums; but the descendants of the chiefs of those days, now only hold a few villages on independent tenure.

Aspect. The western part of the district presents the appearance of a high plain intersected by the river Cauvery, towards which it slopes from the north and south. The country is open, bare of trees and rocky, with a few craggy eminences protruding from the surface. Bordering the river the land is flat for about a mile on each bank, highly cultivated by irrigation, and abounding in cocoanut plantations. The Torriore talook drained by the Iyaur river and extending N. N. W. towards Salem has a less naked aspect, and is bounded on the west by the Colaymalloy hills belonging to Salem, and on the east by the Putchaymalloys, the only range included in Trichinopoly. These hills are from 1,200 to 1,500 feet high, inhabited and cultivated but somewhat feverish and unhealthy. Further eastward the country is very open but more undulating, and in Woodiarpolliem talook again becomes flat with a great extent of jungle and fine clumps of trees, chiefly the tamarind and elloopa. From a point about 12 miles west of the town of Trichinopoly the alluvial and irrigated lands spread out to a great breadth.

To the west and south of Trichinopoly the predominating rock is granite, the lower rock trap or greenstone. The rocks are either distinctly stratified with rounded summits or are dispersed in large detached tabular masses. Beds of laterite are met with near Trichinopoly and thence eastward towards the town of Vellum in Tanjore, and again S. W. towards Madura and Dindigul. Laterite is also observed on the north bank of the Coleroon bordering on Woodiarpolliem talook, and also in some parts of Arrialore. The northern part of the district is chiefly remarkable for fossiliferous rocks, sandstone and limestone, dispersed in inclined strata and containing innumerable marine shells.* The range of these rocks continues between the Coleroon and Vellaur river in South Arcot. The formation appears to extend over from 300 to 400 square miles. It is quarried in some places, and slabs for

tables and teapoys are made from the fossiliferous stone. Nodular limestone or kunkar is abundant in the district, and slaty basalt; also magnesite in the Putchaymalley hills. The soils of the uplands are chiefly of a red colour, sandy and poor. The black cotton soil, and the laterite clay, prevail in Woodiarpolliem and Arrialore talooks. Sterile clay containing soda is also to be found. The soil of the low irrigated land south of the Cauvery and Coleroon is moderately fertile, but that of the northern talooks is not very productive.

The river Cauvery enters the district at its western boundary, its breadth being about 1,200 yards from bank to bank. About twelve miles west of the town of Trichinopoly, the river is intersected by the island, as it is termed, of Seringham; and from this point the northern branch assumes the name of the Coleroon, the southern keeps that of the Cauvery.* The former branch flows on with little change till it enters the sea at Devicottah near Porto Novo; the latter after entering the Tanjore province is broken up into innumerable ramifications which spread over the whole alluvial Delta, and render it a scene of unmatched fertility.

Where the Cauvery separation takes place at the west end of Seringham, a work of considerable magnitude and importance was erected some years ago, known as the "upper annicut." The plan will show the scale. This work though situated within the Trichinopoly district, was designed for the benefit of Tanjore. The southern branch of the river, or the Cauvery, flowing by the town of Trichinopoly, irrigates almost the whole of the fertile province of Tanjore, while the northern branch, the Coleroon, is of comparatively little use for irrigation. For many years past it had been observed that the bed of the Coleroon was gradually deepening, while that of the other branch was rising; and the effect of the change was constantly increasing difficulty in securing sufficient water in the Cauvery for the irrigation of Tanjore. From the very commencement of the British possession of the country, this difficulty had been felt; and one of the ablest Engineers, Colonel Caldwell, predicted in 1803 that in the course of not many years the Cauvery would be dry and Tanjore ruined. Various expedients were adopted from time to time to arrest the evil, but with only partial and temporary effects; and the consummation foretold by Colonel Caldwell seemed impending. At this juncture

* To the west of Seringham it is known as the "Agunda" (or broad) Cauvery, but after the separation, it is simply called the Cauvery.

Captain (now Colonel) A. T. Cotton, of the Engineers, proposed an annicut across the head of the Coleroon ; such a work was accordingly constructed in 1836, and it has completely answered the important end in view. Not only was the downward progress of Tanjore arrested, but signal improvement has followed ; the irrigation was rendered both more abundant and less fluctuating, and both the Government revenue from the province and the prosperity of its inhabitants, have attained a higher point than at any former time.

Some years after the annicut came into operation, its effect was found to be even too powerful ; the bed of the Cauvery river was being deepened, and it was feared that ultimately the quantity of water poured into Tanjore would be too great. To avert this danger, an annicut or dam on a level with the bed, was constructed in 1845 across the head of the Cauvery. This prevents the lowering of the bed ; and by means of this, and of the undersluices in the upper Coleroon annicut, the river is now effectually under command.

Although thus built solely for the advantage of Tanjore, the annicut did incidentally benefit Trichinopoly also. The Laulgoody talook is watered by the Coleroon, and its principal channels being now taken off at the annicut, are better and more certainly supplied than before. The Conaud talook again is watered by the Cauvery below the point of separation, and thus shares in the benefit obtained by Tanjore.

The whole annicut across the Coleroon, and excluding the sole or flooring across the Cauvery, consists of three parts, as shown in the plan, being, broken by two islands, one 70, the other 50 yards wide. The south part is 282 yards in length, the centre 350, and the north 122. Total including the islands 874 yards ; or, exclusive of the intervening islands, the clear length of the annicut itself is 754 yards. It is simply a plain brick wall six feet thick, and seven feet high ; the crown being covered with cut stone, to resist the friction of the water and sand passing over it. It is founded on two rows of wells sunk nine feet below the bed of the river, and protected from the overfall by an apron or pavement of cut stone from 21 to 40 feet broad, the outer edge of which rests as a foundation on a single row of well ; sand further is secured as an exterior defence by a second apron from six to ten yards wide, formed of large masses of rough stones thrown in loosely without cement of any kind. A similar work

of rough stone extends along the entire front or upper side, to protect the foundation of the body of the annicut.

There are 24 sluices distributed at unequal distances along the weir, the largest being 7 by 2 feet, which are very effectual in keeping the bed of the river above the annicut free from accumulations of sand and mud. The sluices are connected by a narrow bridge of brick consisting of 62 arches of 33 feet span, and 6 feet rise. The piers of this structure, built on the annicut, are $6\frac{1}{2}$ feet high and 5 feet thick. The breadth across the soffit of the arches is 8 feet 3 inches, and the roadway within the parapets is 6 feet 9 inches. The object of constructing the bridge having been principally to secure access to the sluices during floods, and there being no great thoroughfare across the river at this point, a greater breadth of roadway was unnecessary, but the communication is very useful for foot passengers and cattle.

The cost of this work from its construction in 1836 to the year 1850, including all repairs, was about 200,000 Rupees or £20,000. The extent of land influenced by it is about 600,000 acres yielding a revenue of £300,000 annually, which is steadily increasing.

The lower annicut is built across the same river in the Trichinopoly district, 60 miles further to the eastward. This work also though standing within the Trichinopoly district, was not designed for its benefit, but for that of Tanjore and South Arcot, more particularly the latter. It was built like the upper annicut, in 1836, and also under the advice of Colonel A. Cotton. The chief use of it is to supply the Veeranum tank in South Arcot, and to water the two southern talooks of that Collectorate, Chellumbrum and Manargoody.

The grand annicut as it is termed is an ancient work constructed by a former Sovereign of Tanjore. It is of the nature of a huge *calingala* in the north bank of the Cauvery; at a point about ten miles east of Trichinopoly. At this point the Cauvery had in very ancient times formed an escape for itself, through which a portion of its waters returned into the Coleroon, here considerably lower than the Cauvery. The closing of this outlet was necessary to the safety of Tanjore, when the irrigation of that province became general, and the "grand annicut" was constructed for this purpose in very remote times. It was quite successful, and is highly creditable to the ability of those who devised and executed such a work with such very inferior appliances of science and constructive art as they possessed. It is of just such elevation as to retain the water to the height sufficient

for watering Tanjore, while the surplus above that passes over it into the Coleroon.

The Vellaur is another river of smaller dimensions than the Cauvery. It rises in the Salem district and forms the northern boundary of Trichinopoly for some distance; after which it continues its course through South Arcot, discharging itself at Porto Novo very near the mouth of the Coleroon.

The Amravutty joins the Cauvery at the western border of Trichinopoly. Its bed is 250 yards across.

The Iyaur after draining the Torriore valley falls into the Cauvery on its north bank just at the north end of the upper annicut.

The Corayaur, and Arriaur flow through the Tondiman's Country, and join the Cauvery at the town of Trichinopoly.

The Keviavettaur, Oopaur, Nundeyaur, are amongst other streams, petty tributaries of the Cauvery and Coleroon.

Roads, &c. From its central position the importance of the roads in this district is very great, yet until lately they were as bad as any other. The southern road from Madras to Madura, Tinnevely and Travancore is now included as far as this station in the list of trunk roads, and is in course of construction.

A good road has been made from the station of Trichinopoly to the Tanjore boundary; it was opened in 1849. Towards the west, the road along the right bank of the Cauvery towards Coimbatore and the Neilgherry Hills has been greatly improved and is fully bridged. The road towards Salem and Bangalore along the left bank of the Cauvery is under construction, as is also that leading to Combaconum, so that in the course of a few years the communications of the district will probably be brought to a state of complete efficiency. There are two fine bridges near Trichinopoly, leading to the town across the island of Seringham. The first one approaching from Madras is that over the northern branch of the river or the Coleroon. This bridge was opened in 1852. It is built of brick, with stone facings to the piers. There are 32 elliptic arches of 60 feet span, and 12 feet rise. The piers are 8 feet high and the same in thickness. The roadway is 26 feet wide, and the extreme length from wing to wing is 2,685 feet or a little more than half a mile. The cost was about $1\frac{1}{2}$ lacs of Rupees.

After crossing Seringham we come to the "Cauvery or southern" ~~bridge~~ leading into the town. This was opened in 1849. It is of

brick, and consists of 32 elliptic arches of 49 feet span, and $12\frac{1}{4}$ rise. The piers are $8\frac{1}{2}$ feet high, and the roadway 25 feet wide. Total length 1,936 feet. It cost about one lac of Rupees. Bridges have also been built over the Iyaur, Codamoorty and Coolyaur rivers.

The most remarkable buildings are beyond doubt, the pagodas on the island of Seringham and on the rock of Trichinopoly described in another place.

More than half the revenue of Trichinopoly is derived from irrigated land, the greater part of which is in the belt of low lying land along the Cauvery and Coleroon. This tract contains about 90,000 acres of rich cultivation, of which 25,000 acres produce a double crop. The fields are watered by channels from the Cauvery or Coleroon, the freshes of which come down about the end of May, so that the country is well supplied with water some months before the N. E. monsoon rains set in. The largest channel is the Weyacondan, the head of which is about 16 miles above or west of Trichinopoly, to which place it has an average breadth of 30 yards; it runs on a very high level and supplies a large extent of land. The same channel fills a great number of reservoirs in the town of Trichinopoly, and affords the inhabitants their ordinary supply of water for domestic purposes, so that when, as sometimes occurs, its stream fails, the people are obliged to send to the Cauvery. After passing the fort, this stream continues in a very serpentine course, and with diminished volume to the eastward, and finally empties itself into a tank at about 15 miles distance. But in former times it extended much further. Next in size and importance are the Iyen and Paravully channels, which water the Laulgoody talook on the left bank of the Coleroon, from which river they are derived; being taken off at the upper annicut. These great water-courses require continual attention and repair, in order to preserve them in an efficient state; for as they are on a much higher level and with less slope than the main river, they are liable to fill with mud and sand, especially at the points where they are crossed by torrents from the high grounds, where large dams are built. Sluices at the heads of all the branch or minor channels regulate the supply of water, according to the extent of land in each village. The wet cultivation is, as elsewhere principally confined to rice; but around Trichinopoly plantains are extensively grown. In Laulgoody and Torriore, sugar-cane receives some attention, but the quantity grown is not large, and the produce is converted only into jaggery or impure

sugar; cocoanut plantations are extensive in Vitticutty, Moosery and Laulgoody. Besides the belt of alluvial land along the Cauvery and Coleroon, there is a considerable extent of irrigated land in the more elevated parts of the district. This is chiefly watered by tanks; but in the northern parts there are some fine villages watered by channels from the Vellaur.

The following is a statement of some of the principal channels and tanks in the district.

Statement of the irrigation and revenue of the chief channels and tanks of Trichinopoly district.

Name.	No. of villages ordered.	Irrigation acres	Revenue Rupees	Bund of Tanks	Yards.	Length of Channel.
CHANNELS.				Length.	Height	Miles.
Wyacondan	102	27,396	1,62,772	..	..	30
Iyen Vorkaul.	109	15,584	1,65,501	..	..	20
Peravally Channel.	71	9,713	53,847	..	..	25
Nadoo Curry Naut Vorkaul.	15	4,037	23,056	..	..	15
Totteyem Chumna Vorkaul.	13	2,267	14,152	..	..	12
Vitticutty Naut Vorkaul.	21	7,101	53,417	..	..	17
TANKS.						
Tirtallioor.	3	932	4,373	5,007	2½	
Cottapolliem.	3	992	4,453	3,001	3½	
Attioor.	1	373	3,974	3,850	4	
Ogaloor.	3	562	6,443	4,150	4	
Pennaconum.	1	226	3,385	2,428	2½	
Aroombaur large Tanks.	2	296	2,831	2,344	4½	
				2,344	2½	

It may also be mentioned that in the Woodiarpolliem talook there is an embankment sixteen miles long running north and south, provided with several substantial sluices and of great strength, which in former times must have formed one of the largest reservoirs in India. This huge tank or lake was filled partly by a channel from the Coleroon river, upwards of 60 miles in length, which enters it at its southern end, and partly by a smaller channel from the Vellaur, which entered it on the north. Traces of both these channels still remain. The tank has been ruined and useless for very many years, and its bed is now almost wholly overgrown with high and thick jungle. It is said traditionally that its ruin was wilful and the act of an invading army. Near the southern extremity of the bund there is a village now surrounded by jungle, called Gungacundapoorum. Immediately in its vicinity is a pagoda of very large size and costly workmanship, and close by, surrounded and overgrown with jungle, are some re-

mains of ancient buildings, now much resembling the mounds or "heaps" which indicate the site of ancient Babylon, but in which the village elders point out the various parts of an extensive and magnificent palace. When this palace was in existence Gungacundapoorum was the wealthy and flourishing capital of a small monarchy, and the great tank spread fertility and industry over miles and miles of what is now trackless forest. It has often been projected to restore that magnificent work, and supply it by a channel from the upper annicut; but hitherto this scheme, like so many others for enriching the country, has remained in abeyance for want of Engineer officers to make the necessary examination. At some future time it may be prosecuted to a successful issue; till then this most fertile tract must remain covered with jungle and almost bare of men; and the few inhabitants will still point with pride to the ancient bund as a monument of the grand and gigantic enterprise of their ancient sovereigns, and compare it contemptuously with the undertakings of their present rulers. Speaking of the noble temple of Gungacundapoorum, it must not be omitted that when the lower Coleroon annicut was built, the structure was dismantled of a large part of the splendid granite sculptures which adorned it, and the enclosing wall was almost wholly destroyed, in order to obtain materials for the work. The poor people did their utmost to prevent this destruction and spoliation of the venerated edifice, by the servants of a Government, who could show no title to it; but of course without success, they were only punished for contempt. A promise was made indeed that a wall of brick should be built in place of the stone wall that was pulled down; but unhappily it must be recorded that this promise has never been redeemed.

The average extent of land under dry cultivation is 206,000 acres, and the crops are those most common in the Carnatic, but do not include any valuable staple of foreign trade; for the cotton, sparingly raised, is all consumed in the district, and the tobacco, of which the well known Trichinopoly cigars are made, is brought chiefly from Dindigul. The manufactures of the district are almost limited to the town of Trichinopoly; though cloth for domestic use is woven in every considerable village. The artisans are skilful and ingenious, and the cigars, jewellery, harness, cutlery, and paintings on paper and talc of Trichinopoly, have established a foreign demand of some value.

The exports are principally rice, cloth, saltpetre, cut granite for

choultries, &c., and grindstone sent by water to Tanjore. As in every other province of southern India, the want of the means of access to distant markets is grievously felt. In the absence of cheap means of transport by land or water to the westward and southward, where rice is much less grown, that commodity, the staple produce of the Trichinopoly district, often falls to a low exchangeable value, to the inconvenience of the growers. What is chiefly wanted is the adoption of some exportable product such as the sugar-cane, in partial substitution for rice.

General observations.

There is certainly not so much wealth among the landholders of Trichinopoly as among those of Tanjore; and it is all in the hands of the proprietors of irrigated lands, while the great bulk of the cultivators are extremely poor. The Pullers and Pariahs are not so dependent on the Meerassidars as in the neighbouring districts, and they are both able and willing to turn their labour to the best account.

Trichinopoly.

The town of Trichinopoly is in Latitude $10^{\circ} 57'$ N., Longitude $70^{\circ} 44'$ E., 200 miles from Madras, and is situated on the south bank of the Cauvery. The tamil name is Tri-sira-pilly or place of the three-headed, from a tradition that in times long past, it was the haunt of a three-headed Rachsasa or Demon Giant. The Mahomedans call it Nutter-nugger or town of Nutter, a celebrated Peer or Saint, whose durga or mausoleum still exists.

The fort lies at a distance of half a mile from the river, the walls occupying a rectangle of nearly a mile in length and half a mile in breadth. The ramparts can never have been so strong as they are generally supposed to have been, since the revetment consisted of single stones, laid in mud; although some parts, especially about the gateways, were built of solid stone, laid in chunam. The ditch was broad, deep, and capable of being filled with water. Excepting one ravelin in the north face, flanking the Chintamani or Madras gateway and the western or main gate. During the wars with Chunda Sahib, and afterwards with the French from 1751 to 1763, the garrison was supplied with water from numerous stone reservoirs, fed by aqueducts from the Wyacondan channel. The ramparts having long since become dilapidated; and there being no further use for them, they

were in 1845 ordered to be demolished, and the work has been gradually progressing, though their complete demolition cannot be effected for several years to come.

Within the fort is the rock, rising about 330 feet from the plain and enclosed by an interior wall. This rock was once the citadel, but is now occupied by dwelling houses. It is crowned by a pagoda, on which is the shrine of Tyamanasawmy, the ascent on the south side by a flight of stairs partly covered in, was, in 1849, the scene of an awful catastrophe. A vast crowd of persons had ascended to worship the image of Pilliar or Gunésa, when owing to some confusion, the cause of which has not been clearly ascertained, about 500 were crushed, trodden or smothered. Since then the place has been better lighted, and the number ascending at a time restricted. A native pettah and several public offices are also situated within the fort. The arsenal and magazine are curiously disposed of, partly in choultries formerly belonging to the pagoda, and partly in modern buildings adjoining them. There was an explosion of a magazine in 1772, of which traces are still existing. Some very large and substantial granaries, the works of former Governments, are also to be found within the inner fort or quondam citadel.

The streets are regular, but narrow, and the town contains a large number of substantial houses belonging to Natives, some being of two stories. The bazaars are numerous, and there are one or two shops for the sale of European articles, liquors, &c. The fruit and vegetable market immediately beyond the walls on the south is large and well supplied, and is a most busy and interesting scene early every morning. A palace and gardens of the Nabob of the Carnatic, the former crumbling into ruins, covers a large extent of ground in the town. There is a large decorated pagoda, used as a Cutcherry or Court for the Tahsildar, Police Ameen, and the town and district Moonsiffs. The old Jail now abandoned is also within the walls, as are also the Garrison Hospital and Main Guard. There stands a large square tank at the north end, surrounded with houses built and occupied by the European officers of the garrison a century ago. A new Jail was built in 1848 on the south esplanade, calculated for 500 prisoners. It is a spacious, airy and secure building, having a hospital attached. The number of prisoners ranges between 4 and 500.

The Wyacondan channel, a branch from the Cauvery, flows between the town and the cantonment; which latter lies on the south and

south-west of the town, about two miles distant. This fine channel travels a great part of the cantonment, and has two bridges, namely, Dark's bridge, and the bridge at Poottoor. At each of these a Police guard is stationed.

The force in cantonment now consists of a regiment of European Infantry, a company of Artillery, and two regiments of Native Infantry, with the usual Divisional and Brigade Staff; as Trichinopoly is the Head Quarters of the Southern Division of the Army. One wing of European Infantry occupies permanent barracks, partly arched buildings and partly tiled; and half the regiment is lodged in five ranges of thatched barracks with mud walls, but having the roof supported on solid pillars. These are called temporary barracks, but have been in use ten years. The permanent barracks are arranged in a square and are very hot, the arched part of the buildings especially so, while the temporary barracks are built in ranges and are very cool and comfortable. All are provided with tatties and punkahs. The hospital is a commodious building, standing to the south west of the permanent barracks, both occupying two sides of the parade ground. Opposite to which are the officers' houses and the cantonment church. In consequence of the high and rocky site of these barracks the supply of water is very scanty, there being only two available wells in the neighbourhood. Two rows of comfortable houses behind the hospital are occupied by married soldiers.

The European artillery are quartered in a spacious building, once the private residence of a civil servant, and purchased by Government in 1831. They are situated to the west of the infantry barracks near the Wyacondan channel, and enjoy an open and cheerful aspect, while the interior is perhaps superior to that of any barracks in India, being lofty and roomy, with an air of privacy rendering it more comfortable; all which combined, have no doubt, a great effect on the health and character of the soldiers. Trichinopoly, notwithstanding its hot and arid climate, has proved, with regard to European troops, one of the most salubrious stations in India.

The Cavalry lines are nearly in the centre of the cantonment: they are at some distance from the exercising ground, (two miles), but this is counterbalanced by their vicinity to a stream of running water.

One Native corps is stationed at Poottoor, a suburb on the south-west, and another has its lines and places of arms to the south. For-

merly the force was much larger—there are vacant buildings adapted for a regiment of cavalry and two of infantry.

The Collector's Cutcherry is in the centre of the cantonment, the Session and Subordinate Court Houses are in Poottoor, where is also the Civil Hospital, or Dispensary supported by Government, for the relief of poor Natives.

The station contains two Protestant Episcopal Churches, one in the fort, and the other in the cantonment, surrounded by a cemetery. The latter is served by the Chaplain of the station; the former belongs to the Society for the Propagation of the Gospel, who have had a missionary at Trichinopoly for many years. There are also a Wesleyan Mission Chapel, a large Jesuit Church, and other Roman Catholic Chapels. The principal Hindoo temples beyond the town are the Pagodas on the island of Seringham, and the Pagoda at Warriore, which once served as a military post, in Clive's days, and the suburb in which it stands, was, for a long time, the quarter chiefly occupied by the Europeans. The Durgah of Nutter Sahib is chiefly remarkable as the burial place of several of the Nawaub's of the Carnatic.

There is a Charity School at Poottoor supported chiefly by endowments left by Schwartz. About sixty orphans, European and East Indian, are entirely supported. The Propagation Society have an efficient English school in the town; and the Roman Catholic priest have another. There are also many Native schools.

The roads about the cantonment have been lately much improved, and there is an excellent drive round the race course and the brigade exercise ground, from which the view is very extensive, though bleak, including the distant Salem hills, the rock in the fort, and those called Sugar Loaf, Golden Rock, French Rock and Elmisseram, all points of interest in the history of that fierce struggle with the French, which left the British masters of Southern India.

The communications between the town and neighbouring villages has been also greatly improved by the construction of roads.

The mean annual fall of rain in Trichinopoly is about 40 inches or 10 less than at Madras. The mean annual temperature $85\frac{1}{2}^{\circ}$ Fahrenheit or 4° above Madras. Maximum in the shade 102° , Minimum 68° .

The population of the town of Trichinopoly is computed at 65,000, exclusive of the military. A curious custom obtains in Trichinopoly of employing in each of the houses of the Europeans, one or two cavilgars or private watchmen; of a peculiar tribe, whose occu-

pation for many generations has been thieving. If none are employed, the house will almost certainly be robbed in spite of the police. They are civil men and will lend a hand to pull punkahs, run messagcs, &c. The system however is unworthy of a civilised age, and means are being taken gradually to put an end to it.

The island of Seringham opposite Trichinopoly is famous for its two pagodas; the greatest and more celebrated is that from which the island takes its name and is dedicated to Vishnu.

This temple is situated nearly opposite Trichinopoly, though a little to the westward; it is surrounded by seven square enclosures, one within the other, the walls of which are 25 feet high, and 4 thick. These enclosures are 350 feet distant from each other, and each has four large gates with a high tower; which are placed, one in the middle of each side of the enclosure and opposite to the four cardinal points. The outward wall is almost four miles in circumference, and its gateway to the south is ornamented with pillars, several of which are single stones 33 feet long, and nearly six feet square; while those which form the roof are still larger: within the inmost enclosure are the chapels.

The other temple is about half a mile east, nearer the Cauvery than the Coleroon, and is dedicated to Siva; it has only one enclosure, and is known by the name of Jembookistna, though the real name is Jumboo-k-E'sweren. Jemboo or Semboo being the rose apple tree sacred to Siva and E'sweren, the supreme one. Another Native name is Teroovāncika.

TANJORE.

THIS district, by far the richest and most fertile in the Madras Presidency, lies between the 9th and 12th degrees of north latitude. It is bounded on the north by the river Coleroon, which separates it from Trichinopoly and South Arcot, on the south by the Shevagunga Zemindary, (pertaining to Madura), and the country of the Tondiman Rajah, on the east by the sea. Here is its longest extent, for it has a coast line of 170 miles.

TANJORE, FUSLY 1260,—*Area* = 3,900 Square Miles

Talooks.	Curbah or principal station.	Number of villages.	Population.	Extent of land cultivated.			Land Revenue	Number of Puttals	Extra sources of Revenue.
1	2	3	4	Wet and Garden	Dry	Total	8	9	10
				Values.	Values	Values	Rupces.		
1 Trivady.....	Trivady ..	279	1,46,837	8,641	7,009	15,650	3,68,285	17,948	
2 Paupanasem....	Paupanasem....	245	97,365	5,675	2,548	8,223	2,43,934	6,156	Salt .. 6,22,029
3 Trivalcor.....	Trivalcor....	399	75,865	5,937	444	6,381	2,92,426	4,478	Sayer .. 26,886
4 Koenloor.....	Negapattam....	416	1,37,358	9,155	814	9,969	3,01,869	7,621	Abkarry .. 1,13,520
5 Tiruppeedy....	Tiruppeedy....	366	1,31,184	11,282	2,718	15,000	3,09,810	8,648	Petty Ialacensus .. 25,937
6 Puttocotah....	Puttocotah....	774	1,50,685	2,969	2,592	5,561	1,41,208	5,163	Monurpha .. 45,180
7 Munnargoody..	Munnargoody..	350	1,17,130	9,101	2,113	11,214	2,69,598	9,222	Sea Customs.. 1,88,824
8 Nunnellum....	Nunnellum....	328	67,508	7,688	458	8,046	2,62,302	4,827	Stamps .. 69,240
9 Codavasel.....	Codavasel.....	225	57,552	5,469	352	5,821	2,22,987	3,530	Total .. 9,91,666
10 Tranquebar....	Tranquebar....	15	22,150	665	18	683	12,760	845	
11 Myavaram....	Myavaram....	349	90,898	7,855	1,399	9,254	2,55,151	5,216	
12 Coatham.....	Coatham.....	304	81,894	7,191	728	7,919	2,91,411	5,456	
13 Combaconum...	Combaconum...	360	1,32,015	5,358	1,448	6,806	2,54,964	6,366	POPULATION.
14 Sheally	Sheally	397	86,240	7,923	1,377	9,300	2,54,946	4,109	
15 Peralem	Peralem	345	66,294	8,055	1,020	9,075	2,61,680	4,146	Hindoos... 15,38,191
16 Valougamaun...	Valougamaun...	278	63,676	5,680	542	6,222	2,20,198	4,560	Mahomedans and others not Hindoos. 1,37,895
Within Tanjore Fort, &c, Moccassa villages belonging to His Highness .....		.....	1,61,436						
Total		5,419	1,676,080	1,09,544	25,580	1,35,124	88,94,519	97,281	16,76,086
Permanently settled Estates ..		251					26,513		
		5,670					39,20,033		

This province is usually described as the Delta of the Cauvery, and the term is sufficiently appropriate, though the district comprehends a small tract beyond the Delta, while a portion of the latter is included in Trichinopoly. The whole Delta portion of the district is flat and alluvial, fully cultivated with rice crops, studded with numerous villages and groves of cocoanut trees, and intersected in every direction by a net work of irrigating channels from the river Cauvery, presenting throughout the features of a flourishing country. South-west of the town of Tanjore the country is somewhat more elevated, especially about Vellum where the Collector generally resides, but there is nothing that can be called a hill in the whole district. Along the coast a belt of sand drifts and low jungle protects the lands from the sea; but between Point Calymere and Adrampatam, there is a salt swamp of several square miles area.

No rock is prevalent in Tanjore except laterite which is abundant in the high grounds near the western frontier, and is again met with in the extreme south. Around Vellum are many beautiful specimens of rock crystal. Along the southern coast a narrow and thin bed of sandstone containing shells, was lately found running parallel with, and about half a mile from the shore, and about two yards below the ground. The stone is compact enough to be used for building purposes.

Extensive beds of marine shells consisting of the large pearl oyster and other existing specimens, have been found in many excavations south of Negapatam, at the distance of three or four miles inland and covered with several feet of alluvial soil, on the south coast also are numerous specimens of this kind, of comparatively recent appearance. The Delta contains some tracts of rich silt, and the immediate margins of the river are generally covered with a light loam; but for the most part the soil is naturally poor, and it is irrigation alone which makes the province such a scene of fertility. The varieties of soils in the higher grounds beyond the Delta are red loam, black cotton soil, sandy light earth and yellow clay much impregnated with soda and incurably sterile. In the Puttacottah talook soda is collected from such soil for the manufacture of soap.

The climate of Tanjore is much the same as that of the maritime Carnatic in general, but the westerly winds though very strong, are perhaps softened and cooled by their passage over the inundated lands, especially after June. In the north-east monsoon the coast talooks

are very damp, and heavy fogs prevail in February. It is, however, a remarkable fact that in this Tropical Province, covered with water as it is during half the year, miasma is wholly unknown. The cold northerly winds of January generally bring fever and cholera among the Natives, but not more than in other districts, and for Europeans the climate is unquestionably salubrious. The provincial sanitarium is Point Calymere which may be said to enjoy a perpetual sea breeze, and is a pleasant retreat for Europeans from the heated land winds. It is open to the sea breeze both to the east and south. As the great value of this province arises from the manner in which it is irrigated by channels from the river Cauvery, some description of them may be interesting.

Before reaching the district of Tanjore, the Cauvery is divided into two branches by the island of Seringham. The northern branch of the river takes the name of the Coleroon, whilst the southern retains the name of the Cauvery. This last flows past the north of the town of Trichinopoly, and then enters the Tanjore district. Across the Coleroon at this point is built the "upper annicut;" the object and use of which are to keep the Cauvery well supplied with water for the irrigation of Tanjore. A description of this work will be found under "Trichinopoly."

About ten miles east of Trichinopoly, the Coleroon and Cauvery again very nearly re-unite; and here, where they run so very closely parallel, is what is called the "grand annicut." This is not an annicut in the proper sense of the term, but a calingalah; it is built in the bank of the Cauvery, as an immense weir to discharge over its top in high freshes, the surplus water of the Cauvery (which runs in the higher level) into the Coleroon. It is a very ancient work, and was the source of constant dispute between the former Rajahs of Tanjore and Nawahs of Trichinopoly, for whoever had charge of it of course had the key of Tanjore in his hands. It is 360 yards long and 22 wide. It consists of a mass of rough stone in clay, of unknown depth, covered with a course of hewn stone and chunam, (mortar). At its eastern end are 30 under-sluiques for discharging the accumulated sand of the Cauvery into the Coleroon. The whole is surmounted by a brick bridge of 30 arches, each arch of 32 feet span, and a roadway of 15 feet. Both the under-sluiques and the bridge have been added to the work by English Engineers; the latter was built in 1839. The use of the sluiques is to relieve the bed of the Cauvery

of accumulating sand, by means of the scour thus obtained. The bridge is on the road from Combaconum to Trichinopoly, and is highly useful ; prior to its construction the road was often impassable at this point for days and even weeks together. The weir itself like many works of Native construction has a serpentine form, and the bridge following this, presents a peculiar appearance. About four miles to the east of this, at Coiladdy is another weir 100 yards long, crossed by a good bridge.

A little to the westward of the grand annicut, and opposite to it, the first great irrigating channel of the Cauvery takes off. It is called the Vennaur. It is in fact rather a branch of the Cauvery than a channel, and irrigates about 300,000 acres of land. There had always been great difficulty in securing to each branch its due proportion of water, the current setting sometimes on the head of the Cauvery, and sometimes on the head of the Vennaur, and alternately deepening either bed, so that when the freshes subsided, one channel would be found blocked up with sand, while the other was very deep. From year to year temporary expedients were adopted, but failed of any permanent effect. It was at length proposed to build a low dam, or rather a raised pavement across the heads of both rivers, to keep them on an equal level.

This work was constructed in 1850 and 1851, and is altogether 623 yards in length exclusive of the wings, which divide the two streams and between which is a large sluice at the head of a great irrigating channel. The total length from north to south is 2,100 feet. There is a narrow bridge on the dams, consisting of 48 arches of 30 feet span with piers 10 feet high, and connecting the sluices, which are lower in level by a foot than the rest of the work, and serve to regulate the currents.

When it is desired to throw into either river a larger body of water than naturally flows towards its head, which can only be necessary in a very low state of the main stream, a row of planks is fixed in iron hooks along the front of the dam in the other head ; the sluices of which are also shut until a sufficient supply is considered to have passed down to sustain the crops, when the same method is adopted with the other branch, and thus every part of the cultivated land in the province of Tanjore may receive in turn a full share of the entire stream of the Cauvery. By these simple works the two rivers are completely brought under command.

The dam is raised one foot above the natural bed of the river, and is founded on wells, covered with brick masonry and cut stone, the foundations being protected, in front and rear, by aprons of rough stone.

From this point the Cauvery pursues its way in a N. E. direction, till 10 miles beyond the grand annicut it throws off a *second* branch, viz., the “Codamoorty.” The Cauvery then flows on in a diminished stream just south of the town of Triviār, and about 30 miles from the grand annicut, throws off a *third* branch called the “Arsillār.” Twelve miles farther on, it passes just north of the town of Combaconum, and two or three miles further throws off a *fourth* branch called the *Veera Shola Cal*. The Cauvery then after passing Myaveram a small streamlet, flows into the sea at Cauverypatam.

From the Vennaur about 5 miles W. N. W. of Tanjore, a stream called the Vettār, branches off near to the north, whilst the Vennaur flows on and passes about two miles north of Tanjore. The Vettār falls into the sea at Nagore. It is partly navigable for small boats. The Codamoorty passes about two miles south of Trivady, (or Triviār).

The Arsillār falls into the sea at the French settlement of Karical, and is partly navigable.

The Veera Sholen Cāl, affords navigation for boats coming from Trichinopoly, as far as Tranquebar, except in the months of September and October. Between every two irrigating or high level channels there is a draining stream to carry off the surplus water which is again raised by dams either temporary or permanent, to supply other lands further to the east.

The high level rivers diminish in volume as they flow onwards, while the deep or drawing streams are increased as well by the surplus waters from the irrigated lands, as the drainage caused by local rains, and the mouths of the largest of these form the only ports on the Tanjore coast having the bar permanently open.

The above remarks may serve to convey a general idea of the admirable system by which the waters of the Cauvery are carried to every village in the Delta, but, it is impossible within reasonable limits to describe the innumerable minor works such as head sluices to regulate the supply of channels,—surplus sluices to prevent the floods of the great draining streams from entering the outlets and inundat-

ing the fields, aqueducts, under-tunnels, annicuts or supplying weirs, callingalabs, or waste weirs, which under various modifications are built throughout the province. The river embankments were in 1836, calculated to exceed 2,000 miles in length and they have been since annually extended, while there were considered to be at least 20,000 miles occupied by irrigating and surplus channels. All of these works receive attention periodically; without which the natural effects of the river floods and of decay would cause the most disastrous breaches in the embankments, ruin of the masonry works, and either drought or inundation of the crops, equally injurious to the Government and people.

The importance of the Cauvery and its branches is much less in respect to navigation, than for irrigation. The only description of vessel ever used above a few miles from the sea is the circular *basket boat* made of bamboo covered with skin, and from 12 to 15 feet in diameter carrying from 4 to 5 tons, and drawing 18 inches. These boats bring down wax, oil, saltpetre, &c., from Salem, Coimbatore and Trichinopoly. When they arrive at their destination, the bamboos of which they are made, are sold, and the boatmen find their way back by land, with the skins.

Over the various streams and channels which intersect Tanjore, numerous bridges are built. They are about 400 in number. The four principal ones are those which lie between the towns of Tanjore and Trivady (Triviar), a distance of only eight miles.

Two miles after leaving Tanjore, travelling north, is the fine bridge over the Vennaur, consisting of five arches of 58 feet span, built in 1836. Two miles further is the bridge over the Vettār (or as the country people call it, the Kuduncāl) of five arches, of 35 feet span each, built in 1845. Two miles farther on, a bridge over the Cadamoorty, of seven arches of 44 feet span each, built in 1845; and $1\frac{1}{2}$ miles farther on the noble bridge over the Cauvery, leading into the town of Triviar. It has nine arches, the centre being 55 feet span, with 11 feet rise. The side arches are 50, 45, 40 and 35 feet. The piers are 6 feet high. The roadway 18 feet wide within the parapets, and the total length of the structure is 468 feet. The wings are flanked by flights of steps of hewn granite. This bridge cost about 20,000 Rs., and was built at the expense, of the Rajah of Tanjore, who has a country seat at Triviar.